DOCUMENT RESUME

ED 212 304 JC 810 247

TITLE	A Development Program for Metropolitan Junior College, Kansas City. Volume Two: Guidelines for Developing Metropolitan Junior College.
INSTITUTION	Little (Arthur D.), Inc., San Francisco, Calif.
SPONS AGENCY	Metropolitan Junior Coll. District, Kansas City, Mo.
PUB DATE	May 68
NOTE	95p.; For related documents, see JC 810 246-248.
EDRS PRICE	MF01/PC04 Plus Postage.
DESCRIPTORS	College Role; *Community Colleges; *Curriculum Development; Educational Needs; Employment Opportunities; *Enrollment Projections; Enrollment Trends; Labor Needs; Postsecondary Education; State Surveys; Student Personnel Services; Transfer Programs; Two Year Colleges; Two Year College Students; Vocational Education
IDENTIFIERS	*Missouri

ABSTRACT

This four-part report provides guidelines and recommendations for the expansion of Metropolitan Junior College (MJC). Part I begins with projections of national social and technological changes anticipated through the year 2000, cites currently changing labor force requirements, and examines the role of education in a technological era. Next, the spectrum of middle manpower occupations (i.e., jobs with a balanced cognitive-manipulative content) is explored. Following the presentation of a taxonomy of higher education institutions, the emergence, role, purposes, and levels of instruction of the community college are considered. Part II provides enrollment projections for MJC, considering national trends in college attendance, characteristics of junior college students, college enrollment trends in Missouri, and 1961-1968 enrollment at Metropolitan Junior College. This section also includes a detailed explanation of the projections' framework. MJC's educational program is discussed in Part III, which focuses on basic principles in developing community college programs; program needs in the college-parallel, liberal arts, and academic program and in occupational programs. Part III also forecasts probable enrollment in occupational programs and suggests improvements in student personnel services. Part IV presents a detail curriculum planning process which involves campus specialization and differentiation of function and provides a sequence and schedule for the development process. (KL)

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A
DEVELOPMENT PROGRAM
FOR
METROPOLITAN JUNIOR COLLEGE
KANSAS CITY

VOLUME TWO
GUIDELINES FOR DEVELOPING
METROPOLITAN JUNIOR COLLEGE
KANSAS CITY

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REPORT
TO
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I. THE NATIONAL PICTURE

1. Looking Toward 2000 A.D.

Planning the new comprehensive community college that will take the place of the Kansas City Junior College is not a task that can be governed by tradition. Our society is passing through a period of dynamic change, and our educational institutions must understand and respond to these changes if they are to be meaningful forces in our society.

The year 2000 will see the nation's population at or near the 340 million mark, a net increase of 70 percent over today's 200 million. An even greater precentage of people will live in cities and their suburbs. Unskilled jobs will virtually have disappeared, and today's automation and first-stage cybernation will be crude indeed by the standards of 2000 A.D. Drastic revisions in life patterns may be necessary, according to John Fisher of TEMPO, who predicts that, "by 1984 man will spend the first third of his life—getting an education, only the second third working, and the final third enjoying the fruits of his labor".

Parking and freeway congestion may still plague us by the year 2000, but great advances will almost certainly be made in transportation. New high speed trains will travel at 150 miles per hour for commuter traffic and short runs. The personal automobile may possibly be barred from central downtown areas. The SST and other supersonic aircraft already promise 1800 mile per hour travel with passenger loads of 500 to 1000 persons. Ballistic rocket craft may whisk passengers from Kansas City to Rio in 30 minutes. Shuttle helicopters and improved passenger and baggage-handling systems will service mammoth airports like Mid-Continent International Airport, now being developed near Kansas City.

Some experts predict widespread malnutrition and starvation unless the problem of population control can be solved in the very near future. Others see the possibility of ocean "farms"—millions of watery acres of protein-rich kelp and other plants; herds of fish produced under international fisheries agreements; vastly improved farming methods on land, and millions of acres not now under cultivation put into production. Colin Clark, the Oxford agronomist, feels that if all the world's *currently arable* land were farmed as intensively as the Japanese and the Dutch farm their plots, food production could be increased five-fold![1]

There will be progressive control over bacterial and virus diseases, and major breakthroughs are predicted for the prevention and treatment of cardiovascular disease. The heart-lung machine and the recent heart transplants are merely forerunners of the advances to come in the years ahead. By 2000 A.D. human spare parts "banks" may be as common as blood banks are today and the time when the failure of one "vital" organ meant death may indeed be a part of history. Electro-mechanical devices, making use of new alloys and plastics, and powered by miniaturized and transistorized electronic components, may be as common at the turn of the century as prosthetic devices are today. The average life expectancy may inch upward to 75 by the year 2000, and nonagenarians may be a familiar sight. The promise of future breakthroughs in genetic research has lead Hudson Hoagland, executive director of the Worcester Foundation for Experimental Biology to predict that, "man will become the only animal that can direct his own evolution."[1]

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[1] Time, Feb. 25, 1966, p. 29.

2. Changing Manpower Requirements

One of the most cherished American traditions is the idea that hard work and perseverance with be rewarded with success. Nevertheless, it is a fact that no amount of ambition can make up for a lack of training.

Recent national studies indicate that there are 1,000,000 technicians and highly-skilled workers in industry, engineering, and science. When semi-professional, technical, and highly-skilled jobs in business, health, agriculture, public service, education, and hospitality fields are added to the above total, it is entirely realistic to estimate that there are, this year, well over 10,000,000 persons in semi-professional and technical jobs in the U.S. labor force. Serious shortages of professionals in almost all fields indicates that the demand for semi-professionals will continue to increase.

3. Education in a Technological Era

The United States has always stressed the value of education. Today, out of ten youngsters who start first grade, seven graduate from high school, and virtually every child has the opportunity to do so. About one third of the college age group is in college, and in some states nearly seventy percent of high school graduates go on to some kind of college experience, many for the baccalaureate degree, others for the associate degree, and others in short term occupational training programs.

In 1963, there were 4.5 million degree-credit students in American colleges and universities. By 1970, it is estimated that degree-credit enrollment will have reached 7.7 million and by 1975, it will be 9.5 million.

These figures reflect the sharp rise in the birth rate beginning just after World War II and continuing through the 1950's. Also contributing is the fact that the percentage of young people who graduate from high school is higher than ever before. In addition, college education is coming to be regarded as a necessity for personal success. As family incomes rise, more families find it financially feasible to send their children to college. As a result, the ratio of college enrollment to the total population of 18 to 21 year old young adults rose from 16% in 1940 to 30% in 1950. By 1960, it exceeded 40% and it is expected to exceed 50% for 1970.

Until recently, however, there was no middle ground in post-secondary education: One either earned a baccalaureate degree or one did not. Vocational schools supplied specific job training, but the sort of general education that is essential to becoming a well-rounded, well-adjusted member of society was restricted to those fortunate enough to attend a four-year college.

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[1] *Time*, Feb. 25, 1966, p. 29.

The technological revolution has made some hallowed beliefs about higher education obsolete: e.g., The idea that higher education is for the few, for the cultured, intellectual elite; and that practical education or a vocational school experience is all that future workers need, "Work" today is largely cognitive; and the unskilled job may have virtually disappeared by 1980. The probable percentage distribution of the labor force by the late 1970's compared to what it was in the 1930's can be seen in Table 1.

TABLE 1
OCCUPATIONAL TRENDS IN THE UNITED STATES
1930 - 1970

Occupational Groups	*Percent of the Labor Force*	
	1930	*1970's**
Professional	6	12
Managerial	8	10
Semi-professional	4	20
Clerical and Sales	15	20
Highly-skilled	10	12
Semi-skilled and service	25	21
Unskilled	32	5

*Estimates for 1970 from Harris, Norman C., *Technical Education in the Junior College*, American Association of Junior Colleges, Washington, D.C., 1964, p. 27.

Referring to Table 1, attention is invited to the occupational groups spanned by the column on the left. Nearly all semi-professional jobs, a high percentage of clerical and sales jobs, and perhaps half of all highly-skilled jobs require education and training beyond high school even today. Many managerial jobs are filled by persons whose college training stopped short of a baccalaureate degree. And an increasing number of jobs in the service category, particularly public service, require one or more years of post-high school training.

Consequently, it is almost certain that, in the 1970's and beyond, at least 50 percent of the labor force will be working in jobs for which the optimum educational preparation would be one, two, or three years of post-high school occupational education.

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[2] Higher Education for American Democracy, The Report of the President's Commission on Higher Education, Harper and Brothers, New York, 1947.

4. The Spectrum of Middle Manpower

"Middle manpower" can be loosely defined as that portion of the total manpower spectrum which is concerned with jobs with a balanced cognitive-manipulative content. At one end of the middle manpower "band" are jobs which are nearly professional in nature (e.g. science research technician) with a very high cognitive-to-manipulative ratio. At the other end are jobs closely related to the skilled trades (e.g. television service technician) where the cognitive-to-manipulative ratio is reversed. In general, middle manpower occupations require post high school education and training of one, two, or three years; but for most of them, a baccalaureate degree is not a requirement for entry into the job nor for successful performance on the job.

Six kinds of occupational education are of concern to community colleges:

1. Semi-professional and technical education
2. Business education
3. Health occupations education
4. Trade and industry education
5. Service occupations education
6. Agriculture education

A quick visual overview of some "middle manpower" occupations may help in focusing on curriculum problems. The "clusters" or "families" identified below show the dimensions of middle manpower. The specific job titles mentioned for each cluster serve to define the job family.

1. Agriculture
    - Agriculture research technician
    - Agri-business jobs
    - Farm equipment sales and service
    - Feed mill operator
    - Frozen food plant operator
    - Landscape designer
    - Nursery operator
    - Soils technician
2. Business
    - Accounting-bookkeeping
    - Advertising layout
    - Business data programming
    - Buying-purchasing
    - Credit and collections
    - Insurance
    - Real estate
    - Salesmanship (outside selling)
    - Secretary (many options)
    - Stenographer
    - Store manager

3. Health and Medical

Dental hygienist
Dental laboratory technician
Dental office assistant
Histologic technician
Inhalation therapy technician
Medical laboratory technician
Medical office assistant
Mental health worker
Prosthetic technician
Psychiatric aide
Radioisotope technician
Registered nurse (A.D.N. or diploma)
Surgical technician
X-ray technician

4. Industry/Engineering/Science

A. Related to mechanical occupations

Air-conditioning/refrigeration technician
Automotive technician
Foundry technician
Draftsman (several options)
Hydraulic technician
Industrial technician
Maintenance mechanic
Materials test technician
Operating "engineering"
Plant foreman
Quality control technician
Tool and die technician

B. Related to electrical/electronic occupations

Aerospace technician
Electrical power technician
Electrician (construction industry)
Electronic technician
  Options: Communications
    Computer
    Industrial electronics
    Radio
    Television
    Telephone
    Microwave
Hydroelectric plant operator
Instrumentation technician
Missile technician
Steam plant operator

C. Related to contract construction and civil engineering occupations

Architectural draftsman
Building construction technician
Building trades craftsman
Concrete test technician
Estimator
Materials test technician
Regional planning technician
Sanitation technician
Specifications writer
Surveyor

D. Miscellaneous technical and skilled occupations in industry

Aviation technicians and mechanics
Ceramics technician
Chemical technician
Engineering technician
Machine trades
Nuclear power technician
Optical technician
Petroleum technician
Radioisotope technician
Sales "engineering"
Technical illustrator
Technical writer
Tool and die maker

E. Related to science research

Ballistics technician
Biological technician
Bio-physical technician
Geophysical technician
Hydrographic technician
Mathematics aide
Metallurgical technician
Meteorological technician
Physics research technician
Spectroscopy technician

5. Services (public and private sectors)

Airline hostess and other personnel
Air pollution control technician
Chef (cook)
Educational media technician
Environmental control technician
Fireman (fire department)
Fish and wildlife technician
Forestry technician
Hotel and restaurant occupations
Law enforcement occupations
Mosquito abatement technician
Nursery school operator
Recreation aide
Social worker aide
Teacher aide

No one community junior college anywhere offers educational programs for all of the above jobs, and it is neither suggested nor implied that MJC-KC should provide all such programs, but each of the fields listed is presently being covered by a program at one or more junior colleges across the nation. The occupational titles are merely illustrative, and there are many other specialized job fields at semi-professional, technical, and skilled levels not mentioned in the above listings.

5. A Brief Taxonomy of Institutions of Higher Education

The university and four-year college generally has responsibility for four-year undergraduate programs in the sciences and the liberal arts and for professional and graduate education. In carrying out this mission, the university is appropriately responsive to the needs of the nation as well as to the needs of the state and the area in which it is located. It has a responsibility for contributing to the knowledge through research; its faculty generally is more committed to the furtherance of professional disciplines than to serving particular social needs of "publics" and may even offer constructive criticism of the society which sustains it. Often it is governed in a way which protects this independence of viewpoint. Recent population growth and increased interest in higher education have placed very rapidly rising enrollment demands upon the universities and four-year colleges, demands which often cannot be met completely. The result has been that admissions have become more selective. The demand for higher education which cannot be met by the universities and four-year colleges of the nation has increased and has supported the invention and growth of other types of institutions of higher education.

The two-year college branch is an institution designed to bring university and four-year college programs to the local community. It offers educational programs quite similar or identical to the programs offered in the first two years on the main campus of the parent institution. The two-year college branch is often financed by the same methods used by its institutional parent, and it is governed by the parent institution. Although the development of two-year college branches increases the enrollment capacity of the parent institution, admission policies are usually no less selective. At any rate, students may live at home and commute to the two-year college branch, and in this way the branches extend the opportunity for higher education to some students who otherwise would not have that opportunity.

A number of two-year colleges and technical institutes offer specialized educational programs and limit their program offerings to these specialized fields. Prominent examples of this type of institution are technical institutes offering programs in the engineering technologies, and business schools offering programs designed to prepare students for entry level jobs. Many institutions of this type have been initiated, financed, and governed as private schools. Their educational programs often are rigorous, admission policies frequently are selective, and the student may be charged sizable tuition and fees since income from this source represents an important part of the financial support for the institution. Students have a limited number of programs to consider as alternatives within the institution if they find that they are not appropriately placed. Institutions of this type have provided some of the better occupational and technical programs available to high school graduates.

Area vocational schools are a recent innovation in public education. They have emerged to meet important and unsatisfied needs for occupational education at the prevocational level, the job entry level for trade skills, the pretechnical level, and even at the technician level. Characteristically, they are a part of the public school system offering strictly occupational education programs to students in grades ten through fourteen (and also to adults seeking to renew their skills or to develop skills in a new occupation). The general or academic educational experience necessary for well rounded development are supplied by high schools associated with the area vocational schools. The federal government usually contributes substantially to the development and support of these institutions.

The traditional junior college, often privately financed and governed, has been a part of the higher education scene in the United States for decades. Typically, it offers programs in the liberal arts appropriate as the first two years of a four-year college program. Occupational educational programs usually are not available as alternatives to the students in a junior college. Junior colleges, along with the two-year college branches, have been an important supplier of students to the upper division courses of universities and four-year colleges.

6. The Emergence of the Community College

Community colleges represent a unique American development in higher education. The very first public junior college in the United States came about through the influence of William Rainey Harper of the University of Chicago. The first of these institutions was established at Joliet, Illinois, in 1901, as a segment of an existing secondary school system.

In the first 40 years of the 20th century, public junior colleges made three important contributions to American higher education: (1) they provided college opportunity available at the local level to increasingly large numbers of high school graduates; (2) they demonstrated that a large number of their graduates could succeed in the upper divisions of four-year colleges and universities; and (3) they pioneered in offering college level or post-secondary school instruction for specific preparation and training for various occupations.

The comprehensive community college offers the "academic" educational programs which can lead to transfer to a university or four-year college and also offers occupational programs one and two years in length which lead directly to employment. Community colleges typically are publicly financed and are governed by a board representative of the area served by the community college. The educational programs usually are developed so that they are directly responsive to the needs of the students in the area and to the employment opportunities in the local economy. The admissions policy generally is an "open-door" policy; virtually any student who can profit from available programs may enroll in the college. The student is aided in his choice of program within the college by counseling and guidance services available for his use.

In addition to the occupational and college transfer programs, the comprehensive community college usually has general education programs and adult education programs which meet the continuing educational needs of the adult population in the area served by the college. Programs serving the adult who is returning to school constitute a small but rapidly growing and important part of the educational program designed to be responsive to the needs of the people in the community service area.

The idea of the *comprehensive community college* incorporates the junior college concepts treated above and adds two more, that of offering higher educational opportunities to individuals of *all ages* and interests, and that of improving the community through the medium of educational planning—that is, bringing the concept of educational planning to bear on the needs of the service area surrounding the community college. Thus the comprehensive community college has become an important means for ameliorating social and economic ills.

Blocker, Plummer and Richardson,[1] describe how the two-year college fits into the functional framework of education in the United States. The *first function* that may be ascribed to education in general is that of *defining the state of being uneducated as undesirable.* The college degree or at least some college education is gaining the significance once accorded to the high school diploma. The two-year college has been caught up in the middle of the drive to increase the educational level of the population; and the comprehensive two-year college with its willingness to offer courses at less than the collegiate level, has been cited as the salvation of low-ability or "late blooming" students.

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[1] *The Two-Year College: A Social Synthesis*, Clyde E. Blocker, Robert H. Plummer, Richard C. Richardson, Jr., Prentice Hall, Inc., 1965.

A *second significant function* of education supplied by two-year colleges is that of *bringing together technically competent persons (a competent faculty) and those who wish to further their education.* The range, level and pattern of competencies of a faculty assembled by any one institution should be appropriate to the needs of its specific student body. Although the modern two-year college has not yet acquired the research orientation and interests to be found in large universities, its increasing responsibilities in the area of diagnostic and remedial work, its progress in the development of occupational and technical programs, and its emphasis on counseling and guidance required by the heterogeneity of its student population have produced far more complex staffs than those commonly found in secondary schools.

A *third function* of education is *providing individuals with the ability to perform a certain type of job.* It is in technical training that an opportunity manifestly exists for the two-year college to make a unique contribution. For nearly every four-year professional program, a comparable two-year technical program can be found. These technical programs can be completed by students who do not have either the interest in or the ability required for the baccalaureate degree. Furthermore, the need for technicians is increasing more rapidly than that for professionals. Estimates of the technician-to-professional ratio required in the near future vary from 2 to 1, to 4 to 1, and even 6 to 1. No other agency of education is so well equipped as the two-year college or institute to train technicians.

The *fourth function, transmission of culture,* is the function which traditional junior colleges have historically concentrated on, often to the virtual exclusion of others. Up until this last decade, the main stock-in-trade of the two-year college was the respectable college-transfer program, with its somewhat nervous duplication of the general requirements surrounding senior institutions. Although the two-year college has made something of a fetish of not being research-oriented, there is a serious need for applied or action research at all levels of education. The two-year college should not rely solely on the answers provided by senior institutions for the resolution of its own unique problems.

The *fifth function* of education involves the *socialization of individuals.* Although this is a crucial function, it is also one which is extremely difficult to define. It deals with the search for and development of attitudes and values which shape the social forces and cultural mores in our society. Depending on the viewpoint that is held of society by certain of its segments, various requirements may be seen as essential to the socialization process. This is a special pitfall of the comprehensive two-year college, and special interest groups may attempt to pressure legislative agencies into requiring that facts be taught as they (the groups) see them. Pressure may also be brought to bear on administrators in an attempt to coerce them into deleting certain aspects of the educational process which are viewed by certain groups as inimical to attitudes they consider desirable. More than any other institution of higher education, the comprehensive two-year college, with its close community ties and its broad spectrum of influence, is likely to become the focus of pressure groups. The more masters a given agency serves, the less freedom it is likely to have. A common pattern of financing and control for the two-year college involves dependence upon both state and local authorities. Unless a college seeks actively to preserve the academic freedom of its staff members, the slow erosion of intellectual freedom may make it quite impotent or stereotyped in the shaping of social forces.

7. Role and Purposes of the Community College

The two-year college movement in this country is in a state of dramatic change and development. This condition is reflected in the nomenclature of such colleges, in the educational purposes and populations they serve, and in the recognition and support accorded to such colleges by the public. The comprehensive two-year community college is generally regarded to be the most dynamic and fast-growing segment of education in America. Any institution growing at a rapid rate can be expected to suffer from "growing pains," and community colleges are no exception.

One of the most significant problems confronting community colleges is that of developing and promulgating an *identity* which will facilitate its further development and its ability to mobilize resources appropriate to the educational needs it attempts to serve. Because of the conflicting and frequently stereotyped views held of the purposes and functions of community colleges, we strongly believe that informed agreement is needed on the definition of the role and purposes of the community college in order to plan effectively for its administration, financing, and general public support. Summarizing recent literature on the subject and drawing heavily upon the statement of Crawford,[2] we suggest the following description of the purposes of comprehensive community colleges:

> A comprehensive community college should provide, for all persons above the 12th grade age level, education consistent with the purposes of the individuals and the society of which they are a part. The educational needs appropriate for comprehensive community colleges to fulfill at this time include—
>
> 1. The need for programs of liberal arts and science courses, usual to the first and second years of college, which will provide sound general and pre-professional education of such quality that credits may be transferred to a national or regionally accredited four-year college or university and applied toward degrees of the baccalaureate level;
>
> 2. The need for occupational (including vocational and technical) programs in the trades, business, industrial, agricultural, and semiprofessional fields. Such programs may be remedial in nature or provide for retraining, and may be of long or short duration, depending on the amount of time needed by the student to complete the requirements for entrance into given occupations;

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[2] Crawford, Ferris N., "A Twentieth Century Institution: The Community College." Address delivered at Southwestern College Agreement Conference, Battle Creek, Michigan, November 16, 1961.

3. The need for programs of courses for adults and other community college students, for which credit may or may not be given, designed to provide *general education* and to improve self-government, healthful living, understanding of civic and public affairs, avocational growth, constructive use of leisure time, personal and family living satisfactions, cultural depth, and to facilitate occupational advancement;

4. The need for individual services to students, including guidance and counseling, assistance in career selection, removal of deficiencies in preparation for college programs, remedial education and compensatory education, as well as personality and health improvement;

5. The need for programs and services for individuals and groups interested in cultural, civic, recreational, or other community betterment projects.

In order to effectively achieve the several purposes outlined above, a comprehensive community college must demonstrate most, if not all, of the characteristics described below.

1. The community college must be oriented to the specific educational needs and requirements of the community area which it serves. Its programs and services should be developed so that within broadly established regulations and standards promulgated by state, regional, and national governing and accrediting institutions it can be instrumental in providing those educational and community services of greatest value to the citizens in its service area. The community college should take the leadership in ascertaining the needs of the community and not wait to be prodded or influenced by various pressure groups. It is easy for curriculum programs and services to be set up in response to well articulated requests from large corporations, organized labor, industrial or trade associations, academic visiting committees, and various government agencies. These groups, however, may not speak for the idiosyncratic needs of such groups as migrant workers, neighborhood groups, agricultural communities, the culturally and economically disadvantaged, small businesses, and other less well organized or influential groups. Especially in the areas of community services and remedial services it is necessary for community college leaders to take the initiative in seeking out, defining, and assigning priorities to emerging requirements for service.

2. The community college should be characterized by the ability to adapt new programs in response to emerging requirements. If the community college is community-oriented and accessible, it will have to embrace a number of new programs as conditions and requirements change within the community. Therefore, some community colleges may offer programs quite different in nature and scope from those offered by community colleges in other parts of the state. This diversity of programming should be encouraged. It is certainly not economically feasible for every community college to attempt to provide identical offerings. One result of differentiated offerings among community colleges is that

students in one part of the state may elect to reside near the community college of their choice in order to avail themselves of programs of specific interest to them. This means that residential accommodations may be essential for some students, such as in private rooming houses and apartments.

3. The community college must be accessible to a very broad spectrum of the population in their service area. Programs and services must be designed to serve and be effectively available to those who need them most. Tuitions and fees should be low enough to represent only minimum obstacles to individuals wishing to avail themselves of the education offered by a community college. The college must also be accessible geographically. This means that it should be located so that there are satisfactory transportation facilities to the college, and most of the students in a community college should be able to commute to the college. The image or the identity created by a community college should be such as to make it attractive to students of greatly differing interests, capabilities, and socioeconomic backgrounds. It should aspire to be democratic not only in its purposes, but also in its operations; it should strive to be geographically and socially acceptable to young and old, economical in cost, and non-selective in its overall admissions policies.

4. The community colleges are characterized by the kind and degree of educational offerings they provide to adults in their continuing education. The education of adults has become increasingly important in our complex civilization and the nature and rate of change in occupational tasks and skill requirements in business and industry demands considerable retraining and continuing education. It is estimated that over 50% of those individuals attending two-year colleges are 21 years old or older. Since many adults work full time in addition to taking courses at community colleges, there is a need for extensive evening programs to accommodate these requirements.

5. Because of the widely varying interests, aptitudes and backgrounds of students, community colleges should be characterized by large, well-staffed, highly competent counseling and guidance services. Students who are seeking vocational goals, or those whose aspirations exceed their abilities, or those who wish to know in what area they might have the greatest chance of being successful will need help and assistance in selecting appropriate tracks or courses from the broad spectrum available in the comprehensive community college.

8. Levels of Instruction of the Community College

We can identify three distinct kinds or levels of *occupational education*[1] in which a truly comprehensive community college should be involved. These are:

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[1] University parallel, "transfer", or pre-professional courses, though these are an important part of a community college curriculum, are not the subject of this section. They are treated in another section.

1. *Collegiate-technical* programs primarily for full-time regular day students. The cognitive-to-manipulative ratio is relatively high. These programs lead to the associate degree, require students of considerable ability, and incorporate significant content in theoretical courses and in general education. Graduates of these programs most often move into jobs at semi-professional and technician levels in many business, industrial, and health fields.

2. *Vocational education programs for business and industry.* These programs may be full time regular day associate degree curriculums, but more often they are short-term (one year or less), highly specialized curriculums intended for job training in specific industrial or business fields. Theoretical content and general education content are modest in scope. The jobs for which they prepare generally fall within "skilled" or "semi-skilled" classifications. The cognitive-to-manipulative ratio is quite low.

3. *Evening and continuing education programs* for persons already employed or for persons seeking training or retraining in order to qualify for employment. Basic education, remedial courses, and courses for job up-grading may be included. These courses and programs do not ordinarily lead to a degree, and may not carry college credit.

All three of these levels or kinds of occupational education may be concerned in varying degrees with all of the following occupational fields:

1. Agriculture
2. Business
3. Health and Medical/Dental
4. Industry/Engineering/Science
5. Services

Note the distinction between *levels* or *kinds* of educational programs, and the *job fields* for which they prepare workers.

Much controversy exists over the value of general education in community college occupational education programs. Some persons feel that education in the common learnings should end, for all but an intellectual elite, with high school. Education and training for occupational competence, it is said, must be highly specialized and concentrated on the knowledge and skills specifically required by industry and business. Time spent on general education will hinder the development of real job competence, it is feared. We do not share this view.

The basic problems of man's existence today are not centered in business, industry, or technology. Man's basic problem is really himself, his beliefs, his loves, and his hates, his attitudes, and his relationships with others.

In a democracy, the tone of living, the value system, the goals men seek, are not set by an intellectual elite, but by the mass of the people themselves. The community junior college is in the best possible position to engender an increased level of concern among so-called average citizens, for it is by nature and purpose designed to serve the rank and file of the people. Moreover, the mere concept of elites, including intellectual elites, is foreign to 20th Century American society. If there is a body of knowledge concerned with the humanities, sciences, and the arts which is "good" for "bright" students, then to some degree at least, and perhaps at a different level of abstraction, these "common learnings", this liberal or general education, is "good" for all students.

9. Summary

The phenomenal growth of the community junior college over the last ten years attests to the fact that it is a vital force for the economic and cultural development of the Nation. With thirty to fifty new institutions being started each year for the past five years, there may be over 1200 of these colleges in the United States, enrolling (full-time, part-time, day and evening) 3.5 million students by the late 1970's. When one realizes that currently (1968) there are only about 6.4 million students enrolled in all of higher education, the impact of the junior college over the next decade can be easily appreciated.

It is our opinion that the vast majority of the semi-professional and technical workers of the future will be educated and trained in the two-year colleges of America. The decade of the 1970's will see the associate degree firmly established as the recognized educational base for semi-professional and technical jobs just as the high school diploma is now looked upon as the minimum educational standard for entry into most skilled trades and crafts and service jobs. In many states, by 1975, half of all high school graduates will be "going on to college" in two-year colleges,[1] and perhaps half of all these will be in occupational programs. It is suggested that this pattern of two-year college attendance will be approached in the Kansas City area by the late 1970's.

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[1] A few states have passed the 60 percent figure already.

II. ENROLLMENT PROJECTIONS FOR METROPOLITAN JUNIOR COLLEGE-KANSAS CITY

1. Introduction

We present in this chapter our enrollment projections for Metropolitan Junior College-Kansas City. The chapter is organized into three parts. In the first part, we present an overview of recent college enrollment trends both nationally and in Missouri as a whole, and interpret these trends in the light of projections of college enrollment in the future. We further review recent enrollment trends in Metropolitan Junior College-Kansas City (MJC-KC), compare these trends with those generally shared by other institutions of higher education in Missouri, and highlight certain characteristics of students enrolled at MJC-KC. Next, we present the results of our projections of enrollment for MJC-KC and give a brief explanation of some of the more important results and assumptions inherent in our projections.

Finally, we give a detailed step-by-step explanation of the entire projection process, discussing in considerable depth the individual steps involved in making the series of projections and estimates which, together with the assumptions, comprise the projection framework.

2. National Trends in College Attendance and Junior College Enrollment

As shown in Table 1, the number of high school graduates attending all institutions of higher education as first-time degree-credit students increased from about 1.4 million in 1955- 56 to about 2.6 million a decade later, and it is expected to increase to nearly 3.4 million by 1975- 76. While in 1955- 56 one half of the nation's high school graduates attended college, this increased to about 56 percent by 1965- 66. By 1979- 80, this is expected to reach the 63 percent level.

Total opening enrollment in junior colleges almost doubled between 1961 and 1966, when enrollment almost reached the 1.5 million level. Assuming a conservative ten percent a year increase during the next few years, this is expected to reach almost 2.2 million by 1970*, which will mean a three-fold increase in one decade.

As shown in Table 2, first-time opening fall degree-credit enrollment in two-year institutions of higher education increased from about 140,000 in 1955 to about 400,000 in 1965 or by 186 percent. By 1975, this is projected to reach 611,000, which means an increase of nearly 54 percent during the 1965-1975 decade and a 45% increase over 1967. The increase will be slightly higher in public two-year institutions during the same period, which, by 1975, will account for about 88 percent of all first-time enrollment in two-year institutions of higher education in this country.

TABLE 1

FIRST-TIME OPENING FALL DEGREE-CREDIT ENROLLMENT OF HIGH SCHOOL GRADUATES IN ALL INSTITUTIONS OF HIGHER EDUCATION – UNITED STATES, 1956-1980

Academic Years (1)	*Total High School Graduates (in thousands)* (2)	*First-Time Degree-Credit Enrollment in All Institutions of Higher Education (in thousands)* (3)		*First-Time Enrollment ÷ High School Graduates*[c] (4)
1955-56	1,421	Fall, 1956	718	0.5053
1956-57	1,446	1957	724	0.5007
1957-58	1,513	1958	775	0.5122
1958-59	1,639	1959	822	0.5015
1959-60	1,864	1960	923	0.4952
1960-61	1,971	1961	1,018	0.5165
1961-62	1,925	1962	1,031	0.5356
1962-63	1,950	1963	1,046	0.5364
1963-64	2,290	1964	1,225	0.5349
1964-65	2,642[a]	1965	1,442	0.5458
1965-66[b]	2,610	1966	1,453	0.5567
		PROJECTIONS		
1966-67	2,629	1967	1,478	0.5622
1967-68	2,693	1968	1,528	0.5674
1968-69	2,791	1969	1,598	0.5726
1969-70	2,906	1970	1,676	0.5767
1970-71	3,010	1971	1,750	0.5814
1971-72	3,096	1972	1,816	0.5866
1972-73	3,172	1973	1,877	0.5917
1973-74	3,251	1974	1,936	0.5955
1974-75	3,319	1975	1,990	0.5996
1975-76	3,356	1976		0.6095
1976-77		1977		0.6153
1977-78		1978		0.6211
1978-79		1979		0.6269
1979-80		1980		0.6327

NOTES:

[a] Preliminary

[b] Estimated

[c] Projections for years 1976-1980 have been obtained by fitting a linear regression (least-squares) line to the 1956-1975 time series as a function of time. The following equation was used: $y = 0.46408 + 0.01549x$, where y = ratio of first-time freshmen enrollment to number of high school graduates and x = time (1955-56 = 1).

Source: U. S. Department of Health, Education, and Welfare, Office of Education, *Projections of Educational Statistics to 1975-76* (1966 Edition), OE-10030-66 (Washington, D.C.: U.S. Government Printing Office, 1966), p. 13, 25.

TABLE 2

FIRST-TIME OPENING FALL DEGREE-CREDIT ENROLLMENT IN TWO-YEAR INSTITUTIONS OF HIGHER EDUCATION 1955-1975

Year (Fall)	*Total First-Time Degree Credit Enrollment*	*Public*	*Private*
1955	139,969	117,288	22,681
1960	213,976	181,860	32,116
1965	400,797	347,788	53,009
	PROJECTED		
1966	409,000	355,000	54,000
1967	421,000	366,000	55,000
1968	441,000	384,000	57,000
1970	493,000	431,000	62,000
1975	611,000	537,000	74,000

Source: U. S. Department of Health, Education, and Welfare, Office of Education, *Projections of Educational Statistics to 1975-76* (1966 Edition), OE-10030-66 (Washington, D. C.: U. S. Government Printing Office, 1966), p. 15.

3. Characteristics of Community Junior College Students

The characteristics of community college students vary more widely than in perhaps any other element of the higher education system. In a study of the two-year college as a social synthesis, the authors concluded that:

> Two-year colleges serve two distinct populations. The first is in the 17-21 age group, loosely classified as *college age youths*. They are high school graduates who have entered college immediately or shortly after high school graduation in order to continue their education on a full or part-time basis.
>
> There are also a large number of students who are not of college age. These students make up a large portion of the "unclassified" and "part-time" students who constitute approximately 50% of the total number of two-year college students in the United States.[1]

These different age groups and general categories for persons who enroll in community colleges are shown in Figure 1, which describes the heterogeneity of student backgrounds and matriculation patterns through the community college years. The diversity of student backgrounds is matched by equally diverse educational programs.

Since diversity is the single most distinguishing characteristic of the community college, the need for careful administration, guidance, and counseling so that the educational program can be adapted for individual application is evident. Once enrolled in a particular program, a student's performance must be continually reviewed and the student made aware of the alternatives before him. It is seldom easy for a student to know or understand precisely which alternatives are available if he loses interest or fails in his original program. Throughout his first year, therefore, a student should have the opportunity to reassess his educational program and to change direction if necessary. Professional assistance is required for a student to make this self-appraisal—particularly if it involves a change from a "prestige" program to one considered "a step down."

At the end of his first year, the most drastic change in a student's status is likely to occur. In recent years, about two thirds of all students entering a junior college did not complete graduation requirements. A substantial portion of those who do not continue after the first year transfer early to a four-year college, university, or another educational institution. Of those who leave the college but do not enroll elsewhere, some become employed and/or marry and leave to establish a home. A portion of the drop-outs will eventually re-enroll. Those who continue after the first year should have the opportunity to change the program or to change the program emphasis within the overall direction of their original educational goals.

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[1] Clyde E. Blocker, R. H. Plummer, and R. C. Richardson, Jr., The Two-Year College: A Social Synthesis (Prentice-Hall, Inc., Engelwood Cliffs), 1965

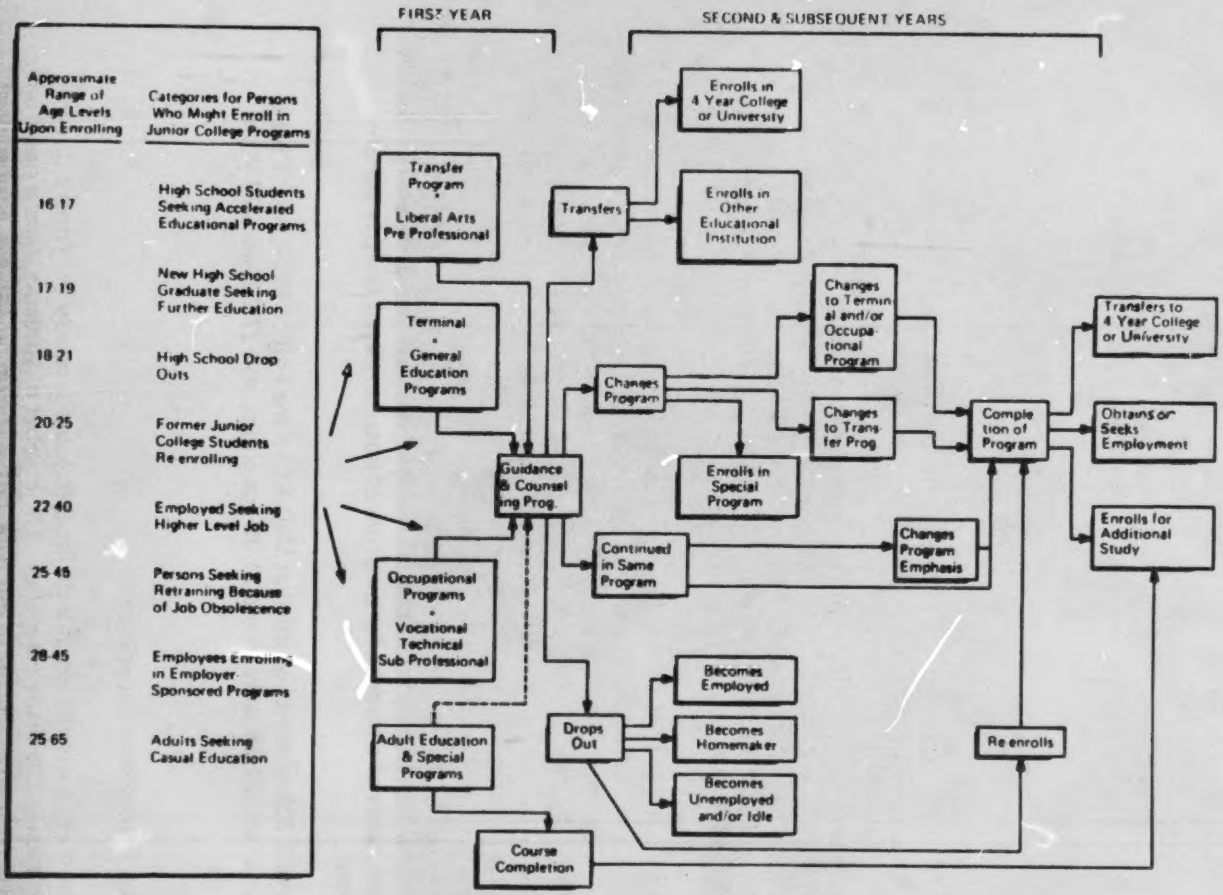
FIRST YEAR
SECOND & SUBSEQUENT YEARS
Approximate Range of Age Levels Upon Enrolling
Categories for Persons Who Might Enroll in Junior College Programs
16-17
High School Students Seeking Accelerated Educational Programs
17-19
New High School Graduate Seeking Further Education
18-21
High School Drop Outs
20-25
Former Junior College Students Re-enrolling
22-40
Employed Seeking Higher Level Job
25-45
Persons Seeking Retraining Because of Job Obsolescence
28-45
Employees Enrolling in Employer-Sponsored Programs
25-65
Adults Seeking Casual Education
Transfer Program • Liberal Arts Pre Professional
Terminal • General Education Programs
Occupational Programs • Vocational Technical Sub Professional
Adult Education & Special Programs
Guidance & Counseling Prog.
Transfers
Enrolls in 4 Year College or University
Enrolls in Other Educational Institution
Changes Program
Changes to Terminal and/or Occupational Program
Changes to Transfer Prog
Enrolls in Special Program
Continued in Same Program
Changes Program Emphasis
Completion of Program
Transfers to 4 Year College or University
Obtains or Seeks Employment
Enrolls for Additional Study
Drops Out
Becomes Employed
Becomes Homemaker
Becomes Unemployed and/or Idle
Re-enrolls
Course Completion

FIGURE 1 HETEROGENEITY OF STUDENT BACKGROUNDS AND MATRICULATION PATTERNS IN THE COMMUNITY COLLEGE

Selected characteristics which show the diverse and flexible program needs for community college students are shown on Table 3. The data has been prepared from a recent study of approximately 10,000 students enrolled at Cuyahoga Community College in Cleveland. The data is comparable to findings from other studies, but is more complete, and is included in this report as representative of student characteristics in community colleges as a whole.

a. Age of Students

Not surprisingly, the majority of full-time freshman students are in the age group 17-20 years, representing recent high school graduates, high school drop-outs and transfers from other institutions. At the second year the percentage of students in this age group drops substantially; over a quarter of the students are between the ages of 21 and 25. For part-time students, a larger proportion of students are in the 21-25 age group and about a fourth are between the ages of 26 and 40. These older students will present the largest demand for continuing education programs, and they will have more specific educational goals than those normally found among the college-age youths.

The drop in the percentage of full-time students who are between the ages of 17 and 20 from the freshman to the sophomore year reflects the normal college attrition rate. Students leave a community college during or at the completion of the freshman year for a variety of reasons. As shown on Figure 1, some will have completed their educational needs and will become employed, others will become homemakers, and a small proportion will become unemployed or be drafted into the armed forces. This point is worth noting, because the community college is often criticized for what is often assumed to be a high attrition rate. Upon inspection, the rate is not found to be substantially different from that of four-year institutions. However, in the community college, a one-year program is often sufficient to meet the needs of a student for purposes of obtaining a job or early transfer to another institution.

Of the 5,739 students enrolled at MJC-KC in the Fall of 1967, 44.7% were 20 years of age or younger; 27.6% were in the 21-25 age group, and 27.7% were 26 years and older.

b. Previous Educational Experience

In estimating enrollment, it is difficult to judge precisely how many students will be coming from each of the many categories. The number of students transferring from other institutions is particularly difficult to estimate, but as shown on Table 3, a substantial portion of both full-time and part-time students were previously enrolled at another college. As would be expected, the proportion is greatest at the sophomore level, particularly for part-time students, 40% of whom have had some previous post-secondary-school educational experience. As the data show, many of the students in this category have had unsatisfactory records at the previous institution. In part, this indicates lack of motivation, which is another

TABLE 3
SELECTED CHARACTERISTICS OF STUDENTS (CUYAHOGA COMMUNITY COLLEGE)

	Full-Time		*Part-Time*	
	Freshmen Percent	*Sophomores Percent*	*Freshmen Percent*	*Sophomores Percent*
1. Age of Students				
Percent 17-20 years	88.2	66.2	26.3	25.0
Percent 21-25 years	7.0	27.6	24.5	38.3
Percent 26-40 years	2.1	2.8	28.8	23.1
2. Previous Educational Experience				
Percent Formerly Enrolled at Another College	17.2	35.2	25.6	40.6
Percent in Good Standing at Former College	5.2	10.5	17.9	21.1
Percent on Probation, or other, at Former College	12.0	24.7	7.7	19.5
3. Marital Status				
Single	94.1	92.1	46.7	61.4
Married	3.7	5.4	41.5	33.4
Other & No Reply	2.2	2.5	11.8	5.2
4. Work Characteristics				
Employed While in College	56.7	62.5	78.3	77.0
Hours Worked Per Week:				
1-20	39.3	36.4	6.4	13.7
21-39	12.2	20.1	8.9	13.8
40 or more	3.8	6.1	62.6	48.3
Not Reported	44.7	38.5	22.1	24.2
5. Educational Background of Fathers (Highest Level Attained)				
Elementary School	16.0	14.6	25.2	21.5
High School	44.2	45.2	35.1	41.9
Some College	23.2	21.4	14.7	18.5
College Degree or More	12.1	12.5	6.7	8.1
Not Reported	4.5	6.3	18.3	10.0
6. Curriculum Choice				
Technical	33.9	31.1	50.2	35.3
Transfer	61.6	64.5	31.0	59.1

Source: Data derived from J. Philip Dalby and Lawrence E. Fox, *The Students*, An Institutional Research Project, Cuyahoga Community College: Cleveland, January 1967.

reason for community colleges' extensive guidance and counseling services. The data also suggest that a number of transfer students lack the ability to perform college level work and will be candidates for remedial or developmental programs more closely attuned to their abilities.

c. Marital Status

The difference between full- and part-time students and their age distribution is reflected in the data on marital status in Table 3. Nearly all full-time students, both freshmen and sophomores, are single, while about one-third of the part-time students are married. Studies indicate that in general at least a quarter of the students will be married. In the Fall of 1967 there were as many as 2,130 married students attending MJC-KC (or 37% of the total enrollment). These students pose special problems of financial need and family life for the guidance directors and counseling services.

d. Work Characteristics

This is perhaps one of the most significant characteristics of community college students. It is not clear to what extent students need to hold part-time jobs in order to meet their educational expenses. The data show, however, that employment while attending college is normal for a majority of the students. The availability of part-time jobs, therefore, and the location of the college with respect to place of residence and place of work are important factors in planning a new institution.

For full-time students, of those reporting employment, approximately half worked less than 40 hours per week. The opposite is found for part-time students, and in the case of Cuyahoga Community College, almost two-thirds of the part-time freshmen worked 40 hours or more. Another study showed that 57 percent of the students had part-time jobs consuming between 17 and 22 hours per week.[2]

At MJC-KC, 76 percent of the students reported that they were employed during the Fall of 1967, and 72.8 percent of those employed held full-time jobs.

e. Educational Background of Fathers

A number of studies have been conducted to determine the relationship between the family head's educational background and occupation, and the college attendance of his children. Conclusions from most of such studies are not remarkable. In general, more high school graduates whose fathers are professional or semiprofessional workers enter college than do high school graduates whose fathers are in other occupations. The range runs from 67% of persons from professional homes entering college to 26% of persons from families where the father is in the blue-collar occupations. The data in Table 3 reflects this attendance rate. Among full-time students, the percentage whose fathers completed only elementary school is lower than the percentage whose fathers completed high school or some college.

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[2] Louis A. D'Amico and M.R. Raines, "Employment Characteristics of Flint Junior College Students" Junior College Journal, Vol. XXVIII (Dec. 1957), p. 193.

The difference between full-time and part-time students is interesting to note. More part-time than full-time students come from families where the head of the household has a high school education or less. This indicates that the community college is a significant vehicle for "educational upgrading," and must be prepared to serve a portion of the population that is not normally oriented to higher education.

f. Curriculum Choice

This characteristic was included to show the representativeness of the sample. As the data show, with the exception of part-time freshmen, about a third of the students enrolled at Cuyahoga Community College are in technical curricula. Virtually every major study of community colleges, including those that emphasize technical education, shows the same distribution; during the Fall of '67, for instance, 36.8 percent of MJC-KC's student body were enrolled in vocational-technical programs.

Student choice is an important determinant of the educational program that will ultimately evolve in a new institution committed to providing a full range of two-year post-high school educational opportunities and will have an important bearing on enrollment. (The transfer category includes both the liberal arts and pre-professional curricula.) The fact that a majority of the students choose to enroll in a transfer program reflects in part the motivational differences between programs oriented to the possibility of continued educational achievement as opposed to those commonly referred to as "terminal," often with an immediate and highly specific objective.

g. What MJC-KC Students Expect of Their College

In order to assess what students at MJC-KC wanted from their college, we set up an Ad Hoc Committee on Long-Range Planning. Discussion groups formed under the auspices of this committee revealed that students want, for the most part, a campus that affords all the amenities and advantages of the traditional four-year college campus: i.e., a college atmosphere, ample classroom and library facilities, a gymnasium, a bookstore (and possibly a book exchange), places to study, and places to relax. Students also expressed a strong desire for small classes that permit good teacher-student contact; a transfer program as good or better than the present one; a more diverse curriculum; better counseling services; an expanded and improved adult education program; and better articulation between schools, between day and evening courses, and between the school and industry.

There was little difference in what students in different programs said they wanted, but the discussion groups did seem to reveal a difference in motivation between part-time and full-time-transfer students. Usually, part-time students have stronger reasons for enrolling: They want to learn and they want to make sure they get all they can from school for their time and money. Full-time-transfer students are often not quite sure about why they are attending college, beyond the fact that their parents are sending them.

4. College Enrollment Trends in Missouri

As shown in Table-4, full-time equivalent enrollment (FTE) in all institutions of higher education increased by 76.5 percent between 1961- 62 and 1967- 68, while it doubled in four-year public institutions and increased more than four-fold in two-year colleges. During the same period, enrollment (FTE) in private institutions increased at a much slower pace, by only 19.5 percent.

Between 1967- 68 and 1975- 76, enrollment in all institutions is expected to grow by 59.5 percent. Of the 46,900 new students (FTE) during this period, about one-third (15,232) are expected to attend two-year public colleges, about 53 percent (24,818) are expected to enroll at four-year public institutions, and the rest (6,849) at private colleges. It should be strongly emphasized that between 1967- 68 and 1975- 76, enrollment in public two-year colleges is expected to more than double.

To understand the role of two-year public colleges in meeting this unprecedented demand for higher educational opportunities, it should be noted that while in 1961-62 only 5.7 percent of all FTE enrollment was in two-year public colleges, this jumped to 13.8 percent by 1967- 68 and is expected to reach 20.0 percent by 1975- 76. Thus, the crucial educational role that is to be played by a comprehensive Metropolitan Junior College-Kansas City must be fully appreciated against this background of unparalleled educational challenge that is now being and will continue to be faced in Missouri.

5. Recent Enrollment Trends in Metropolitan Junior College-Kansas City

Recent enrollment trends in Metropolitan Junior College-Kansas City can be seen within the context of enrollment growth in other public two-year colleges in Missouri by studying Table 5. In fall, 1961, MJC-KC accounted for over about 52 of total FTE enrollment in all two-year public colleges in Missouri. By fall, 1966, its share declined to about 24 percent, with the growth of enrollment in other junior colleges and particularly with the fast enrollment growth experienced by Junior College District-St. Louis.

Enrollment (FTE) in MJC-KC nearly doubled between 1961 and 1967 (fall). This is a much faster growth, as we shall see later, than the growth in the number of high school seniors and, consequently, high school graduates in the four-county "enrollment service area" of MJC-KC, indicating to a large extent a rapid rise in both the college-going rate of high school graduates and the increasing propensity of the young adult population to engage in higher education on a part-time basis. An examination of Table 6 indicates, for example, that in fall, 1967, the number of part-time students at MJC-KC was almost twice that of full-time students. The same table shows that part-time enrollment grew at a much faster rate than full-time enrollment. Further, Table 7 shows the rapid increase in evening enrollment at MJC-KC, not only among the student body as a whole but also and particularly among first-time freshmen. An analysis of enrollment in different occupational-vocational areas in fall, 1967 reveals that evening enrollment in such study areas as accounting and business, data processing, police science, secretarial, and clerical study is substantially higher than day-time enrollment in the same areas, indicating that part of the recent rise in

TABLE 4

FULL-TIME EQUIVALENT FALL SEMESTER ENROLLMENT TRENDS IN MISSOURI INSTITUTIONS OF HIGHER EDUCATION, WITH PROJECTIONS TO 1975-76

College Year	*Four-Year Public*	*Two-Year Public*	*Private*	*Total*
1961-62	33,221	3,924	32,017	69,162
1962-63	35,951	4,587	35,408	75,646
1963-64	42,028	6,573	33,114	81,715
1964-65	48,764	10,223	35,568	94,555
1965-66	57,679	12,446	36,629	106,754
1966-67	64,375	15,073	36,885	116,333
1967-68	66,939	16,842	38,255	122,036
1970-71	81,727	23,708	42,365	147,800
1975-76	106,545	38,940	49,214	194,700

Sources: (a) 1961-62 to 1965-66: From Missouri Commission on Higher Education, *First Coordinated Plan for Missouri Higher Education* (September, 1966), p. 20.

(b) 1966-67 to 1975-76: From Rex R. Campbell, *Population and Higher Education in Missouri* (December, 1967), pp. 70-75. The enrollment figures given for years after 1966-67 are projections. These are the "B-1 Series" projections given by the author. For the assumptions underlying them, see p. 79. It should be noted that the lowest projection series, labeled "Series A-2", are below the "B-1" Series given here for two-year public colleges by 2,647 in 1970-71 and 3,795 in 1975-76.

TABLE 5

FULL-TIME EQUIVALENT FALL SEMESTER ENROLLMENT TRENDS IN PUBLIC TWO-YEAR INSTITUTIONS OF HIGHER EDUCATION IN MISSOURI, 1961-62 TO 1966-67

Institution	*1961*	*1962*	*1963*	*1964*	*1965*	*1966*
TOTAL	3,924	4,287[f]	6,573	10,223	12,445[f]	14,967[f]
Crowder	–	–	–	285	438	418
Jefferson County Junior College	–	–	–	264	480	690
Metropolitan Junior College – Kansas City	2,044	2,309	2,473	3,117	3,669[a]	3,581[a]
Mineral Area[b]	358	318	364	409	517	710
Missouri Southern College[c]	792	797	847	1,012	1,337	1,546
Missouri Western College[d]	475	578	591	730	953	952[e]
Moberly	155	177	168	184	185	168
Junior College District – St. Louis	–	–	2,032	4,089	4,729	6,721
Trenton	100	108	98	133	137	181

Sources: (1) 1961-62 to 1964-65: From Missouri Commission on Higher Education, *First Biennial Report* (Jefferson City, Missouri, November, 1964), p. 102.

(2) 1965-66: ——, *First Coordinated Plan for Missouri Higher Education* (September, 1966), p. 34.

(3) 1966-67: ——, *Higher Education Statistical Report, 1966-67*, Number II (Jefferson City, Missouri, February, 1967), p. 2.

NOTES: [a] Metropolitan Junior College—Kansas City, Institutional Planning and Research Enrollment Information Digest (September, 1967).

[b] In Flat River. Data for 1961-1964 given for "Junior College of Flat River."

[c] Known as Joplin Junior College until July 1, 1964, and Jasper County Junior College later.

[d] Formerly known as St. Joseph Junior College.

[e] Estimated.

[f] These totals may slightly differ from those given earlier because they are derived from different sources.

TABLE 6

RECENT ENROLLMENT TRENDS IN METROPOLITAN JUNIOR COLLEGE – KANSAS CITY, 1961-62 TO 1967-68

College Year (Fall Semester)	*Total Full-Time*	*Total Part-Time*	*Total Headcount*	*Total Full-Time Equivalent*
1961-62	1,242	1,939	3,181	2,044
1962-63[a]	1,228	1,915	3,143	NA
1963-64[b]	NA	NA	3,947	NA
1964-65	1,626	3,272	4,898	3,117
1965-66	2,262	3,038	5,300	3,669
1966-67	1,968	2,776	4,744	3,581
1967-68	1,967	3,720	5,687	3,976

Source: Metropolitan Junior College – Kansas City, Institutional Planning and Research, Enrollment Digest (September 25, 1967).

NOTES: NA: Not Available

[a] U. S. Department of Health, Education and Welfare, Office of Education, *Opening (Fall) Enrollment in Higher Education, 1962,* OE-54003-62, Circular No. 697 (Washington, D.C.: U. S. Government Printing Office, 1962), p. 21.

[b] *Ibid.,* 1963, OE-54003-63, p. 25.

TABLE 7

RECENT DAY-TIME AND EVENING ENROLLMENT TRENDS, METROPOLITAN JUNIOR COLLEGE – KANSAS CITY (1966-'67 AND 1967-'68)

	Total Enrollment[a]				*Total First-Time Enrollment*[a]	
	Headcount		*Full-Time Equivalent*		*(Headcount)*	
Description	***1966-67***	***1967-68***	***1966-67***	***1967-68***	***1966-67***	***1967-68***
TOTAL[b]	4,711	5,724	3,569	4,028	1,840	2,012
Day	2,652	2,675	2,766	2,825	1,259	1,185
Evening	2,059	3,049	802	1,203	581	827
Percent Breakdown:						
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0
Day	56.3	46.7	77.5	70.1	68.4	58.9
Evening	43.7	53.3	22.5	29.9	31.6	41.1

NOTES: [a] Components may not add to the totals given due to rounding.

[b] Totals given here may differ from those given earlier since the enrollment data presented here pertains to a slightly later date in the respective fall semesters.

Source: Metropolitan Junior College – Kansas City files.

evening enrollment is attributable to an increasing demand within the community for continued training in the type of areas just mentioned.

Table 8 indicates that the student body of MJC-KC is an integral part of the community's economic life, with more than half of surveyed students working 40 or more hours per week. In fact, the proportion of students working a full week has increased from 56.0 percent in 1965-66 to 62.3 percent in 1966-67, with four-to-five percent working part-time less than 10 hours a week. Given the fact that total part-time headcount enrollment nearly doubled since 1961, the employment characteristics of the MJC-KC student body indicate a pattern that should be widely recognized in planning for the future.

It is well known among educational planners that future enrollment levels in two-year public college system are closely related to the curriculum mix that will be offered. In making our projections, we have been fully cognizant of this fact.

6. Summary of MJC-KC Enrollment Projections

A summary of our MJC-KC enrollment projections up to 1979-80 is presented in Table 9. We estimate that by the academic year 1979-80, full-time equivalent enrollment at a comprehensive MJC-KC will reach about 16,000, which is four times the full-time equivalent enrollment in Fall, 1967. Total head-count enrollment is expected to reach nearly 27,000 by 1979-80, of which slightly over 19,000 will be part-time students and about 7,700 will be full-time students. The projected increase in part-time enrollment from the present (Fall, 1967) 3,720 to about 19,000 represents the anticipation that a comprehensive and fully developed MJC-KC will become an important and vital force in the community's educational life, offering academic and vocational educational opportunities to the area's residents who will increasingly seek such opportunities.

For purposes of determining future facility requirements and for planning the space needs to be met in a fully developed MJC-KC, the projection series entitled "full-time equivalent day enrollment" will be particularly useful, since this series projects for each year the average peak day-time demand for facilities.

It will be noted that all projection series presented in Table 8 start with the college year ending in 1967. Further, it will be seen that the enrollment figures given in this table do not agree with the actual enrollment levels at MJC-KC in Fall, 1966, 1967, or 1968. This can be simply explained as follows. In order to incorporate into our projections the "feedback effect" of the existence of a comprehensive MJC-KC system on college-going rates within the four-county* "enrollment service area" of MJC-KC, we have taken the 1966-67 academic year as our starting point, since much of the data needed in making many of our estimates were available only for 1966. This does not present any logical problems, since using an alternative starting point would not have made any difference.

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*Jackson, Clay, Platte, and Cass.

TABLE 8

EMPLOYMENT CHARACTERISTICS OF STUDENTS ENROLLED AT METROPOLITAN JUNIOR COLLEGE – KANSAS CITY (1965-66 AND 1966-67)

Number of Hours Employed Per Week	*1965-66*		*1966-67*	
	Number	*%*	*Number*	*%*
40 or more	1,965	56.0	1,925	62.3
30-39	297	8.5	255	8.3
20-29	520	14.8	394	12.7
10-19	579	16.5	365	11.8
Less than 10	146	4.2	153	4.9
Total Number of Respondents	3,507	100.0	3,092	100.0

Sources: (1) Metropolitan Junior College – Kansas City, *Student Questionnaire 1965-1966;*

(2) Metropolitan Junior College – Kansas City, *General Information About the Student Body* (March, 1967).

TABLE 9

SUMMARY OF ENROLLMENT PROJECTIONS FOR METROPOLITAN JUNIOR COLLEGE – KANSAS CITY

1967-1980

College Year Ending	*Full-Time Students*	*Part-Time Students*	*Total Headcount Enrollment*	*FTE Enrollment*	*FTE Day Enrollment*
1967	2,990	4,010	7,000	4,530	3,420
1968	3,190	4,480	7,670	4,920	3,700
1969	3,340	4,930	8,270	5,260	3,930
1970	3,620	5,590	9,210	5,810	4,320
1971	3,980	6,440	10,420	6,530	4,830
1972	4,460	7,580	12,040	7,490	5,520
1973	4,720	8,410	13,130	8,120	5,970
1974	5,080	9,500	14,580	8,960	6,570
1975	5,640	11,050	16,700	10,200	7,470
1976	6,000	12,330	18,340	11,150	8,160
1977	6,490	13,970	20,460	12,390	9,070
1978	6,950	15,690	22,630	13,650	10,000
1979	7,410	17,560	24,970	15,010	11,030
1980	7,670	19,180	26,860	16,090	11,850

Note: Projections have been rounded to the nearest ten. Therefore, in some cases, the first two columns above may not add exactly to the third column.

Source: Table 13.

A detailed technical discussion of the enrollment projection process is presented separately in the next section, spelling out all the assumptions that were made and the methods used in arriving at individual estimates. We can summarize some of the more important results and assumptions inherent our projections as follows:

(1) The number of high school seniors and high school graduates from all public and private schools in the four-county "enrollment service area" of MJC-KC will continue to increase during the projection period but at a somewhat slower pace. In 1978- 79, the four-county area will have approximately 2,800 more high school graduates than at present (1967- 68).

(2) We have assumed that by the college year 1979-80, higher educational participation rate of high school graduates from the four-county area will be about 80 percent, based on experiences elsewhere in the country.

(3) A survey we have conducted of public schools within the MJC-KC District indicated that during the period 1964-1966, about 57 percent of the high school graduates attended college. Since this finding is based on rather spotty information, we have a separate estimate based on a close examination of existing data on higher educational participation trends. According to this independent estimate, 56.6 percent of high school graduates in 1965- 66 actually attended college in Fall, 1966. This is extremely close to the national rate for the same year (56.2 percept) and to the estimated rate for Missouri as a whole in 1965 (about 55 percent).

(4) Assuming that a minimum of 750 additional high school graduates from the four-county area would have attended college in 1966 if a comprehensive MJC-KC system as we now propose were in existence, we estimate that higher educational participation rate for high school graduates from the four-county area would have been at least 64.5 percent in 1966. This "minimum" figure is based on estimates made several years earlier in a report by the Kansas City Metropolitan Area Committee on Higher Education.

(5) In 1966, an estimated number of 1599 high school graduates from the four-county area attended MJC-KC as first-time freshmen, which is 29.9 percent of the total number of first-time freshmen attending all colleges from the four-county area. We have estimated that the share of a comprehensive MJC-KC in 1966 would have been 39.4 percent.

(6) We have assumed that the share of MJC-KC of total first-time freshmen from the four-county area will reach 50 percent by 1979-80. The implication of this assumption is that by 1979-80, an estimated 40 percent of all high school graduates from the four-county area will be attracted to MJC-KC.

(7) Assuming the existence of one or more community colleges on the Kansas side of the Metropolitan Area, and also assuming the existence of a comprehensive MJC-KC, we have estimated that the inflow of first-time freshmen into MJC-KC from outside the four-county area would have comprised about five percent of locally generated first-time freshman enrollment at MJC-KC in 1966. We have assumed that this in-migration factor will remain fairly constant during the projection period, based on the thinking that a fully developed MJC-KC will by-and-large serve the Missouri portion of the Kansas City Metropolitan Area, and that the growth of educational opportunities elsewhere in the state will keep in-migration of students from outside the four-county area at a very low level.

(8) Among the many other assumptions explained later, mostly involving simple conversion factors based on experience both at MJC-KC and elsewhere in the country (such as the ratio of full-time freshmen to full-time sophomores, est.), we should point out one or two that require comment here. We have assumed that by the end of the projection period (1979-80), the ratio of full-time unclassified enrollment to total full-time freshmen and sophomore enrollment will be an estimated 12 percent, indicating a rise from about five percent experienced at MJC-KC recently. Also, we have assumed that by 1979-80, the ratio of part-time students will be about 2.5, which is almost twice the recently experienced ratio of 1.34. Both of these assumptions, based on experiences elsewhere in the country, reflect very strongly our anticipation that with the future curriculum mix that will be offered at a comprehensive and fully developed MJC-KC, part-time enrollment in both day-time and evening vocational, adult education, and regular academic programs will continue to increase.

APPENDIX – DETAILED EXPLANATION OF THE PROJECTION FRAMEWORK

After having summarized our enrollment projection results, we can now turn to a detailed explanation of the projection framework that was used in generating these projections. In summary, the projection framework consists of a series of interrelated projections and assumptions. An examination of Table 10 provides a comprehensive review of the entire projection process. Thus, we will index our detailed explanations here to this table, so that the procedures we have used can be followed in a sequential and logical manner. Our overall rationale in making these projections can be described in few words as follows. An essential input into the projection process is the estimation of future high school graduates in the four-county "enrollment service area". Secondly, the higher education participation rates of high school graduates must be projected, regardless of the location of colleges or universities that they might attend. Such a projection, as we shall see, must incorporate within itself an estimated "feedback effect" resulting from the existence of a comprehensive MJC-KC system: i.e., the availability of a comprehensive MJC-KC system will undoubtedly affect the "college-boundedness" of the high school graduates within the four-county area and such an effect must be taken into account. Following this, there arises the question as to which portion of the total number of college bound students from within this four-county area will choose to attend MJC-KC as first-time freshmen. Put another way, a projection must be made of the enrollment demand for MJC-KC from within its enrollment service area. Next, it is necessary to estimate how the projected "local" demand for MJC-KC will be supplemented by the inflow of students to MJC-KC from outside the four-county service area. Having thus arrived at projections of first-time freshman enrollment at MJC-KC, other data are derived by making assumptions that are based on experiences accumulated in many parts of the country. These assumptions involve, for example, the ratio of full-time sophomore enrollment to full-time freshmen enrollment, or the ratio of total part-time enrollment to total full-time enrollment. These relationships will certainly vary as the MJC-KC system develops over time, and these trends must be taken into account. Demand for adult education at MJC-KC, for example, can be essentially derived from the latter type of relationship. Thus, these and other assumptions that will be more fully explained below are based on the experiences of other community college systems across the country in similar circumstances and these experiences will undoubtedly be helpful in gauging the future trends in Kansas City.

We now present a step-by-step description of the projection process and explain at each point the assumptions that were made.

1. Projection of High School Graduates to 1979-1980

As shown in Tables 11 and 12, during the ten year period from 1955 to 1965, the number of high school seniors in public and private schools within the four-county area (Clay, Jackson, Cass, and Platte) exactly doubled. Population of the four-county area however, increased by only 20.3 percent during the same period. Between 1955 and 1960, population increased by only 13.8 percent, while the number of high school seniors (i.e., twelfth graders) increased by 39.7 percent. Similarly, between 1960 and 1965 population

TABLE 10

MJC-KC ENROLLMENT DEMAND TO 1979-1980

MJC KC ACADEMIC YEAR

Line	Enrollment Factors	1966/67	1967/68	1968/69	1969/70	1970/71	1971/72	1972/73	1973/74	1974/75	1975/76	1976/77	1977/78	1978/79	1979/80
(1)	High School graduates, 4 county area (s1) (in school year 1965-66 1966-67 etc)	9 429	9 567	9 545	9,820	10,298	10,581	11 007	11,251	11,850	11 857	12,239	12 411	12 532	12 327
(2)	% first time freshmen enrollment in all institutions of higher education everywhere from 4 county area, assuming comprehensive MJC KC	64 524	65 612	66 700	67 822	68,866	70 107	71 278	72 468	73 678	74 908	76 159	77 431	78 724	80 039
(3)	Total expected enrollment of first time freshmen in all institutions of higher education, in 4 county area (all series henceforth include assumption of the existence of a comprehensive program at MJC KC the "feedback effect"	6,083	6 277	6,367	6,666	7,080	7,677	7 846	8 153	8 731	8,957	9,321	9,610	9 866	9 866
(4)	Number of first time freshmen enrollees at MJC from 4 county area expressed as % of (3)	39 421	40 146	40 889	41 643	42 412	43 184	43 901	44 803	45 630	46 472	47 329	48 703	49 092	50 000
(5)	Total number of first time freshmen enrollees at MJC from 4 county area	2 398	2,520	2,603	2,776	3,003	3,316	3 452	3 653	3 984	4 162	4 412	4 632	4 843	4 933
(6)	Expected number of in-migrant first time freshmen enrollees to MJC from outside the 4 county area. Note Kansas = 0 (04587 x (5))	110	116	119	127	138	152	158	168	183	191	202	212	222	226
(7)	Total expected number of first time freshmen enrollees at MJC ((5)+(6))	2,508	2,636	2,722	2,903	3,141	3,468	3,610	3,821	4,167	4,353	4,614	4,844	5,065	5,159
(8)	Total expected first time freshmen enrollment (80% of (7))	2 006	2 109	2 178	2,322	2,513	2,774	2,888	3,057	3 334	3 482	3,691	3,875	4 052	4 127
(9)	Full time sophomore students as a proportion of full time freshmen students	4200	4353	4511	4675	4845	5021	5204	5393	5589	5792	6003	6222	6448	6600
(10)	Expected full time sophomore enrollment ((8)x(9))	843	918	982	1 086	1,218	1 393	1,503	1 649	1 863	2,017	2 216	2,411	2 613	2 724
(11)	Total expected full time freshmen and sophomore enrollment ((10)+((12)) (8)+(10)	2,849	3,027	3,160	3,408	3,731	4,167	4,391	4 706	5,197	5,499	5,907	6,286	6,665	6,851
(12)	Expected full time unclassified enrollment as a proportion of total expected full time freshmen and sophomore enrollment	0500	0535	0572	0612	0684	0700	0749	0801	0857	0917	0981	1049	1122	1200
(13)	Expected full time unclassified enrollment (11)+(12)	142	162	181	209	244	292	329	377	445	504	579	659	748	822
(14)	Total full time expected enrollment (freshmen, sophomores, unclassified) (11)+(13)	2,991	3,189	3,341	3,617	3,975	4,459	4,720	5,083	5,642	6,003	6,486	6,945	7,413	7,673
(15)	Ratio of part time students to full time students	1 3408	1 4059	1 4742	1 5458	1 6209	1 6986	1 7821	1 8686	1 9583	2 0544	2 1542	2 2588	2 3685	2 5000
(16)	Total expected part time enrollment (14)x(15)	4,010	4,483	4,925	5,591	6,443	7,579	8,412	9,498	11,064	12,333	13,972	15,687	17,558	19,183
(17)	Total expected enrollment, headcount (full time and part time) (14)+(16)	7,001	7,672	8,266	9,208	10,418	12,038	13,132	14,581	16,696	18,336	20,458	22,632	24,971	26,856
(18)	Proportion of part time students expected to enroll as day time students	1618	1709	1805	1907	2014	2127	2247	2373	2507	2648	2787	2954	3120	3300
(19)	Expected enrollment of part time day students (16)x(18)	649	766	889	1,066	1,298	1,612	1,890	2,254	2,771	3,266	3,908	4,634	5,478	6,330
(20)	Expected part time enrollment, evening (16) (19)	3,361	3,717	4,036	4,525	5,145	5,967	6,522	7,244	8,293	9,067	10,064	11,053	12,080	12,853
	FULL TIME EQUIVALENT ENROLLMENT (SUMMARY)														
(21)	Full time equivalent enrollment of full time freshmen, sophomores and unclassified Same as (14)	2,991	3,189	3,341	3,617	3,975	4,459	4,720	5,083	5,642	6,003	6,486	6,945	7,413	7,673
(22)	Full time equivalent enrollment - part time day students (19)x0.66	429	506	587	704	857	1,064	1,247	1,488	1,829	2,156	2,579	3,056	3,615	4,178
(23)	Full time equivalent enrollment - part time evening enrollment (20)x(0.33)	1,109	1,223	1,332	1,493	1,698	1,969	2,152	2,391	2,733	2,992	3,321	3,647	3,986	4,241
(24)	Full time equivalent enrollment (21)+(22)+(23)	4,528	4,918	5,260	5,814	6,530	7,492	8,119	8,962	10,204	11,151	12,386	13,650	15,014	16,092
(25)	Total full time equivalent day enrollment (21)+(22)	3,419	3,695	3,928	4,321	4,832	5,523	5,967	6,571	7,471	8,159	9,065	10,003	11,028	11,851

Note: These are demand estimates. They are the enrollment levels we would expect if a full range of programs and facilities were available. The academic years 1966 and 1967 have been included to show the probable number of persons not now being served. Compare with Table 7.

TABLE 11

ENROLLMENT OF HIGH SCHOOL SENIORS IN PUBLIC AND PRIVATE SCHOOLS CASS, CLAY, JACKSON, AND PLATTE COUNTIES, MO.

1955-65

			Public Schools				
				Counties			
Year (Fall) (1)	*Grand Total* (2)	*Total Private** (3)	*Total Public* (4)	*Cass* (5)	*Clay* (6)	*Jackson* (7)	*Platte* (8)
1955	5,372	801	4,571	233	551	3,610	177
1956	5,558	857	4,701	261	568	3,699	143
1957	5,960	916	5,044	255	618	3,984	187
1958	6,394	978	5,416	284	691	4,237	204
1959	7,035	986	6,049	317	900	4,589	243
1960	7,504	1,044	6,460	350	894	4,961	255
1961	6,838	701	6,137	343	897	4,661	236
1962	7,103	798	6,305	314	935	4,799	257
1963	8,871	1,042	7,829	400	1,162	5,949	318
1964	10,757	1,072	9,685	536	1,612	7,133	404
1965	10,770	1,182	9,588	536	1,503	7,159	390

Sources: (1) Missouri State Department of Education, Division of Public Schools

(2) Metropolitan Junior College—Kansas City Files.

*Including all parochial schools, as well as other private schools. Data for 1955-1960 are estimated.

TABLE 12
ENROLLMENT IN PUBLIC SCHOOLS
(CASS, CLAY, JACKSON, AND PLATTE COUNTIES, MISSOURI)
1959-60 TO 1965-66

School	*Grades*												
Years	*K*	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*
1959-60	12,265	13,068	12,522	11,884	11,409	11,180	10,898	11,731	9,711	8,401	7,579	7,186	6,049
1960-61	12,172	13,965	12,809	12,457	11,909	11,389	11,239	11,139	11,787	9,817	7,902	6,896	6,460
1961-62	12,809	14,516	13,594	12,821	12,361	12,070	11,527	11,403	11,229	12,147	9,491	7,049	6,137
1962-63	14,525	15,126	13,990	13,346	12,470	12,030	11,611	11,291	11,020	11,241	11,280	8,340	6,305
1963-64	14,422	15,921	14,803	13,865	13,129	12,378	11,949	12,041	11,590	11,955	10,703	10,547	7,829
1964-65	14,865	15,913	15,445	14,811	13,653	13,260	12,551	12,385	12,197	12,040	11,075	9,869	9,665
1965-66	16,243	16,553	15,766	15,286	14,789	13,817	13,357	13,142	12,702	12,497	11,479	10,612	9,588

Source: Missouri State Department of Education, Division of Public Schools increased by 5.7 percent, while twelfth grade enrollment increased by 43.5 percent. These trends clearly indicate the significant discrepancy between population growth and the growth in the number of high school seniors. In view of the fact that an increasing proportion of high school graduates have been and will be seeking opportunities for higher education, the community at large must seriously consider the future in shaping educational policies and opportunities affecting the area's youth, and obviously, affecting itself in the long run.

According to our projections, summarized in Table 13, the number of high school seniors and consequently the number of high school graduates will continue to increase during the projection period (up to 1979-1980), but at a slower pace than experienced in the recent past. During the last ten years (1957-58 to 1967-68), the number of high school seniors increased by 4,974 students or by 83.5 percent. During the next ten year period (1967-68 to 1977-78), the number of high school seniors are estimated to increase by 3,421 students or by 31.3 percent. In terms of high school graduates, ten years from now the four-county area will be producing 2,987 *more* high school graduates than at the present (1967-68).

The projection method computationally consists of two simple steps. First, enrollment levels in all grades 2 through 12 for a given year are projected by post-multiplying a "grade-specific transition probability matrix" by a vector whose component elements indicate enrollment in each previous grade one year earlier. In the second step, projected twelfth graders for a given year, such as 1975-76, are graduated by multiplying it by a coefficient reflecting the proportion of twelfth graders who will actually graduate from high school. The first step can be expressed mathematically as follows:

$$\begin{pmatrix} E_{2,t} \\ E_{3,t} \\ E_{4,t} \\ \vdots \\ E_{12,t} \end{pmatrix} = \begin{bmatrix} P_{12} & 0 & 0 & \cdots & 0 \\ 0 & P_{23} & 0 & \cdots & 0 \\ 0 & 0 & P_{34} & \cdots & 0 \\ \cdots & \cdots & \cdots & \cdots & \cdots \\ 0 & 0 & 0 & \cdots & P_{11,12} \end{bmatrix} \times \begin{pmatrix} E_{1,t-1} \\ E_{2,t-1} \\ E_{3,t-1} \\ \vdots \\ E_{11,t-1} \end{pmatrix}$$

where

$E_{i,t}$: enrollment in grade i in school year t (i=2, ..., 12; t = 1966-67, 1967-68, ..., 1979-80); if t = 1979-80, then t-1 = 1978-79, etc.

P_{ij} : the average probability of transition from grade i to grade j in one year (e.g., from grade 11 to grade 12)

TABLE 13
PROJECTION OF PUBLIC AND PRIVATE HIGH SCHOOL GRADUATES IN CASS, CLAY, JACKSON, AND PLATTE COUNTIES[a] –MISSOURI, 1965-66 TO 1979-80

School Year	*GRADES*												*High School Graduates*
	1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*	
1965-66[b]	18,968	18,001	17,331	16,775	15,769	15,218	14,896	14,398	14,089	12,773	11,822	10,770	9,426
1966-67[c]	19,154	18,255	17,736	16,927	16,609	15,566	15,430	14,851	14,721	13,151	11,795	10,959	9,567
1967-68	18,841	18,434	17,987	17,323	16,759	16,395	15,782	15,425	15,184	13,741	12,145	10,934	9,545
1968-69[c]	18,277	18,133	18,163	17,568	17,152	16,543	16,623	15,777	15,771	14,173	12,688	11,258	9,828
1969-70		17,542	17,866	17,740	17,394	16,931	16,773	16,618	16,130	14,721	13,087	11,762	10,268
1970-71			17,284	17,450	17,564	17,170	17,166	16,768	16,990	15,056	13,593	12,132	10,591
1971-72				16,881	17,277	17,337	17,409	17,161	17,144	15,858	13,903	12,601	11,007
1972-73					16,714	17,054	17,578	17,404	17,545	16,002	14,643	12,688	11,251
1973-74						16,498	17,291	17,573	17,794	16,377	14,776	13,574	11,850
1974-75							16,727	17,286	17,967	16,609	15,123	13,697	11,957
1975-76								16,722	17,673	16,770	15,337	14,019	12,239
1976-77									17,096	16,496	15,485	14,217	12,411
1977-78										15,958	15,232	14,355	12,532
1978-79											14,736	14,120	12,327
1979-80												13,660	11,925

Notes: [a] These four counties have been defined as the "enrollment service area" of Metropolitan Junior College–Kansas City. Enrollment figures include public, private, and parochial schools in the four-county area.

[b] Actual

[c] Estimated

Numerically, a grade-specific transition probability assignment has incorporated within it a "net migration" element, reflecting "net migration" affecting each grade specifically during roughly the first half of this decade. Because of this "net migration" element, the numerical value of a given probability assignment can exceed unity. Suppose, for example, the p_{56}, that is, the probability of transition from grade 5 in year t-1 to grade 6 in year t, is 1.1002. Even if all the fifth graders become sixth graders one year later, this indicates that at least ten percent more will show up as sixth graders, due to expected "net migration", that is, the difference between total out-migration and total in-migration specifically affecting the children making a transition from the fifth to the sixth grade in the entire area.

The elements of the "transition probability matrix" are estimated empirically by studying grade-by-grade enrollment trends in the four-county area in the school-years 1961-62 to 1965-66, the period for which complete enrollment data were available, including all private and public schools within the four-county area. The empirical derivation of each grade-specific transition probability can be described symbolically as follows:

$$P_{ij} = \frac{1}{4} \sum_{t = 1962\text{-}63}^{t = 1965\text{-}66} \frac{E_{j,t}}{E_{i,\,t-1}}$$

where

$j = i + 1$

$i = 1, 2, \ldots, 11$

$t = 2, 3, \ldots, 12$
$t =$
$t = 1962\text{-}63, \ldots, 1965\text{-}66$. Thus, if $t = 1962\text{-}63$, then $t\text{-}1 = 1961\text{-}62$, etc.

$E_{j,t}$: (for example) enrollment in grade 6 in 1962-63

$E_{i,t-1}$: (for example) enrollment in grade 5 in 1961-62.

It must be pointed out that since our primary interest has been to project twelfth graders for a given year and the number of high school graduates, we have refrained from making complete grade-by-grade enrollment projections for every year up to 1979-80. In other words, a review of Table 13 indicates that in order to project the number of high school graduates in 1979-80, it is only necessary to project second graders up to 1969-70, who will then become third graders next year, etc., and will finally become twelfth graders in 1979-80. This is why Table 13 is semi-triangular, omitting enrollment levels in grades in the years ahead that are not necessary as information inputs in the task to project high school graduates in 1979-80.

It will be noticed that in order to project the number of second graders for 1969-70, it was first necessary to project the number of first graders for 1966-67, 1967-68, and 1968-69. These projections of the number of first graders were accomplished by studying the ratio of births to first grade enrollment six years later in the four-county area. Thus, first grade enrollment in years 1960-61 through 1965-66 were compared with total number of births six years earlier, respectively, and an average ratio was estimated for projection purposes. This ratio was then applied to births in 1961 through 1963 to arrive at the number of first graders that would be expected in 1966-67 through 1968-69. Again, these estimates of the number of first graders take account of net-migration, in the sense that the "births-to-first grade enrollment" ratio has incorporated within it a realistic net-migration component.

2. Projection of Higher Educational Participation Rates

a. Current Higher Educational Participation Rates

There is currently very little information on the proportion of high school graduates in the four-county area who go on to college as first-time freshmen, regardless of the location of college or university. We have thus made various efforts to determine what percent of the area's high school graduates currently attend college after graduation. The first estimate, presented in Table 14, is based on a comprehensive survey of the individual school districts within the MJC—KC district. This survey indicates that during the years 1964 to 1966, roughly 57 percent of the high school graduates attended college. It should be emphasized that this estimate is based on extremely spotty information, and must be checked against alternative estimates of the actual higher education participation rate to ascertain its usefulness.

In order to arrive at an estimate of higher education participation rate, we utilized two sources of information: (a) Missouri Commission on Higher Education, *Higher Education Statistical Report 1966-67*, Number II (Jefferson City, Mo., February, 1967), p. 9, and (b) U.S. Department of Health, Education and Welfare, Office of Education, *Residence and Migration of College Students, Fall 1963 State and Regional Data* (by M.C. Rice and P.L. Mason), OE-54033, Circular No. 783 (Washington, D.C.: U.S. Government Printing Office, 1965), p. 62. From the first source, we found that of the 9,426 high school graduates in the four-county area in the school-year 1965-66 (including private schools, 4,522 of them attended Missouri institutions of higher education as first-time freshmen. From the second source, we found that 15.2 percent (4,099 ÷ 26,996) of the total number of college-bound students from Missouri were actually enrolled in out-of-state institutions of higher education as first-time freshmen. We made two assumptions: first, that in the four-county area 15.2 percent of the college-bound high-school graduates went out-of-state in 1963, and secondly, that this percentage did not substantially change between 1963 and 1966. Thus, the 4,522 high-school graduates from the four-county area who were enrolled in Missouri institutions of higher education in the fall of 1966 comprised about 84.8 percent (i.e., 100.0% - 15.2%) of the total number of college-bound students from the four-county area. Therefore, (4,522) ÷ (0.848) = 5,333 high-school graduates from the four-county area attended colleges in 1966. Then, 5,333 ÷ 9,426 = 0.5678 or 56.578 percent actually attended college as first-time freshmen. This figure is quite close to the earlier estimate of 57.4 percent, based on very spotty

TABLE 14
HIGHER EDUCATIONAL PARTICIPATION RATES, BY SCHOOL DISTRICT
(SUMMARY OF A COMPREHENSIVE SURVEY)

Graduating Year	*District*	*High School Graduates** (1)	*Graduates Attending* *In-State Institutions* (2)	*Graduates Attending* *Out-State Institutions* (3)	*(2) + (3)* (4)	*Graduates Attending 2-Year Institutions* (5)	*Percent of Graduates Continuing Their Education* (6)
1964	Raytown	655	a, b	a, b	390	NA	59.5
	Raytown H.S.	328	a	a	188	NA	57.3
	South H.S.	327	b	b	202	NA	61.8
1966	North Kansas City	864	NA	NA	438	NA	50.7
	Oak Park HS	361	141	23	164	39	45.4
	No. KC HS	503	e	e	274	NA	54.5
1966	Belton	160	54	23	77	6	48.1
1964	Kansas City	2,090	c	c	1,233	NA	59.0
1966	Center	311	NA	NA	199[d]	NA	64.0[d]
1966	Lee's Summit	238	130	21	151	24	63.4
1966	Hickman Mills	462	258	29	287	83	62.1
1966	Grandview	211	78	11	89	9	42.2
Assorted	TOTAL	4,991	NA	NA	1,864	NA	57.4

Notes:

*Figures given are not actual high school graduates for a given year, but represent the base figures upon which percentages are calculated; in the case of questionnaires, the figure represents the number of high school graduates for a particular year who returned the questionnaire.

[a] Of the 188 Raytown High School graduates attending institutions of higher education, in 48 of the cases the institution is not identifiable as in-state or out-state; in 66 of the cases, the institution is not identifiable as 4-year or 2-year.

[b] Of the 202 Raytown South High School graduates attending institutions of higher education, in 48 of the cases the institution is not identifiable as in-state or out-state; in 63 of the cases, the institution is not identifiable as 4-year or 2-year.

[c] 155 students (7.4%) attended institutions *not* in Missouri or Kansas; 147 (7.0%) attended "other" (institutions not listed separately) institutions in Missouri *or* Kansas; 714 (34.2%) attended institutions unambiguously in Missouri; 72 (3.4%) attended institutions unambiguously in Kansas; together, these add only to 1088 (88.2% of those attending institutions of higher education)!

[d] *Planned* to attend college.

[e] Approximately 194 attended in-state institutions and 48 out-state institutions, adding to 242; the location of the other 32 institutions is unknown.

information obtained from public high schools within the MJC-KC district. It is also quite consistent with the national trends (55.67% in 1965 and 56.22% in 1966*). Further, it is very close to the estimated trends in Missouri as a whole, as illustrated by the following quotation from Missouri Commission on Higher Education, *First Coordinated Plan for Missouri Higher Education* (September, 1966), p. 17:

> Surveys by the Missouri Department of Education indicate that the proportion of Missouri public high school graduates attending college increased from 38 percent in 1961 to 43 percent in 1962. The 1963 U. S. Office of Education study of the geographical origin of college students indicates the Missouri rate that year was 49 percent. Data available for 1965 would strongly indicate the college going rate has passed 50 percent and is possibly approaching 55 percent.

b. "Feedback Effect" of a Comprehensive MJC-KC on the Current Higher Education Participation Rates

We have computed the "feedback effect" of the existence of a comprehensive MJC-KC on the higher education participation rates in the four-county "enrollment service area" by simply modifying the estimated 1966 rate of 56.578 percent in view of "new" students who would have attended college if adequate facilities and opportunities were locally available. In a report several years ago, the Kansas City Metropolitan Area Committee on Higher Education stated**:

> ...we roughly estimate that there are currently 750 to 1,000 additional students of college potential from each high school class in the Missouri portion of the area who would attend college if facilities were more available.

Thus, the feeling that more students in the area would attend college if opportunities were made locally available has existed in the community in recent years. If we assume that even a minimum of 750 new students would welcome the opportunity to attend college in the community, this would have raised the number of students going to college for the first time from the estimated 5,333 to 6,083 in 1966. Consequently, 64.534 percent of all high school graduates in the four county area would have gone to college as first-time freshmen in 1966 (6,083 - 9,426), which would have been substantially higher than both the Missouri rate and the national rate. We have called this rise in higher education participation rate from 56.578 percent to 64.534 percent the "feedback effect," as of 1966. Thus, if a comprehensive MJC-KC had existed in the community in 1966, 64.534 percent of the four-county area's high school graduates would have attended college as first-time freshmen.

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*U. S. Department of Health, Education and Welfare, Office of Education, Projections of Educational Statistics to 1975-76 (1966 Edition), OE-10030-66 (Washington, D.C.: U. S. Government Printing Office, 1966), p. 13, 25. Both the 1965-66 and 1966-67 figures are estimates.

**The Kansas City Metropolitan Area Committee on Higher Education, The Need for Expanding and Developing Higher Education Facilities (December, 1962), p. 12.

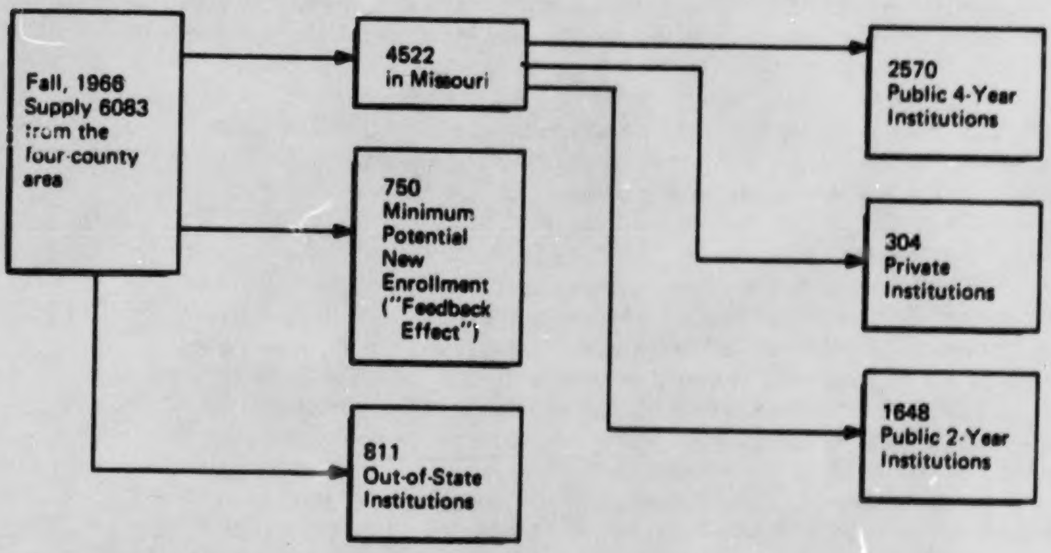
c. Assumptions on Future Higher Educational Participation Rates

We have assumed, on the basis of the community college experience in many other parts of the country and especially in California that by the end of the projection period (1979-80), about 80 percent of the high school graduates from the area's schools will attend college. Such an assumption is premised on the expectation that a fully developed MJC-KC community college system will reach the level of maturity that is now being experienced, for example, in California. Thus, having arrived at an estimate of the higher education participation rate that should be reasonably expected by the end of the projection period, we have linearly interpolated the in-between years, assuming a constant percentage rate of growth each year.

3. Projection of the MJC-KC Share of First-Time Freshman Enrollment in All Institutions of Higher Education

a. Current Potential MJC-KC Share, Including "Feedback Effect"

We can show diagrammatically the distribution of the total "supply" of college-bound high school graduates from the four-county area by destination as follows:


Fall, 1966 Supply 6083 from the four-county area
4522 in Missouri
750 Minimum Potential New Enrollment ("Feedback Effect")
811 Out-of-State Institutions
2570 Public 4-Year Institutions
304 Private Institutions
1648 Public 2-Year Institutions

It can thus be seen that "potential" demand for two-year public institutions of higher education in Missouri on the part of high school graduates from the four-county area in 1966 consisted of at least 1648 + 750 = 2,398 students, which makes only 39.42 percent of all first-time college-bound students from the four-county area in 1966.

We can make the reasonable assumption that all 750 of the new students would have attended MJC-KC in Fall, 1966, if a comprehensive MJC-KC were indeed in existence. Further, we can assume that the estimated 811 students would have gone out-of-state in any case, and that those who preferred attending public four-year institutions and private two-year or four-year institutions in Missouri would likewise not be attracted to MJC-KC. A case can certainly be made for the fact that a certain portion of these students would be attracted to MJC-KC, but it must be understood that at best this would be a conjecture and therefore be open to question. Thus, we chose to disregard the students from the four-county area who in 1966 were enrolled in four-year public institutions or all private institutions in Missouri (within or outside the four-county area) who might have preferred to attend MJC-KC in 1966 if a comprehensive MJC-KC were in existence. This introduces a slightly downward bias into our estimate of the "current" MJC-KC share, but we think it is better to work with estimates that are defensible.

Now, we are left with the question of those who attended public two-year institutions in Missouri as first-time freshmen from the four-county area (1,648 students). An estimate must be made of how many of these students actually attended MJC-KC and how many went of the four-county area in Missouri to attend a two-year public college. To begin with, we know, from MJC-KC enrollment figures for Fall, 1966, that 430 students came from high schools *outside* the MJC-KC district (249 from the rest of Missouri, 131 from Kansas, and an estimated number of 50 students from among these 212 students whose high school origins were not available). Thus, an estimated number of 430 first-time freshmen came from outside the MJC-KC district. Since total first-time freshman enrollment at MJC-KC in Fall, 1966 was 1,840, this leaves 1,410 students who came from within the MJC-KC district. Next, an estimate must be made of how many came from within the four-county area but outside the MJC-KC district. We can start with the operationally minimum estimate that 1,410 who were graduates of high schools in the four-county area enrolled at MJC-KC as first-time freshmen. We can go further. In a 1965-1966 student survey at MJC-KC, it was found, for example, that 151 first-time freshmen students had graduated from high schools in Independence (94), Parkville in Platte County (49), Cass County excluding Belton which is part of the MJC-KC district (8). This figure of 151 students should be considered an absolute minimum, since it was derived from a sample of 4,720 students in a total student body of 5,893 students. Thus, an upward adjustment must be made to account for unsurveyed students who might have come to MJC-KC as graduates of high schools outside the MJC-KC district, but from within the four-county area. This adjustment was made by assuming that the unsurveyed students had the same probability of having first-time freshmen who had graduated from high schools outside the MJC-KC district but within the four-county area as those students who were actually surveyed. This yielded an estimated number of 189 first-time freshmen students who were graduates of high schools in the non-MJC-KC parts of the four-county area.

Since we estimated earlier that 1,410 of the 1,840 first-time freshmen at MJC-KC in Fall, 1966 came as graduates of high schools within the MJC-KC district and we now have estimated that about 189 first-time freshmen came from high schools in the non-MJC-KC parts of the four-county area, then a total of 1,599 first-time freshmen came as graduates of high schools within the four-county area as a whole. Since we know, from the above, that the four-county area supplied 1,648 first-time freshmen to all two-year public colleges in Missouri in Fall, 1966, we can thus estimate that 1,599 of them actually attended MJC-KC, and the remainder (about 49 students) attended other public two-year colleges in Missouri.

We can now summarize our findings. We have just estimated that 1,599 first-time freshmen enrolled at MJC-KC in Fall, 1966 were graduates of high schools within the four-county area. Further, we estimated that about 49 students from the four-county area preferred to attend two-year public colleges in Missouri other than MJC-KC. We can reasonably assume that these 49 students would have been attracted to MJC-KC if a comprehensive MJC-KC system were in existence in 1966. Thus, total *minimum* demand for a comprehensive MJC-KC in 1966 would have been 2,398 first-time freshmen from within the four-county area.

Since we had estimated earlier that the total potential number of first-time college enrollment from the four-county area, including the "feedback effect," would have been 6,083 students in Fall, 1966, we can now estimate that the MJC-KC share of this would have been 39.421 percent (2,398 ÷ 6,083).

b. Assumptions Underlying Projections of MJC-KC Share of Total First-Time Freshmen from the Four-County Area

We anticipate that by the end of the projection period (1979-80), about 50 percent or one-half of all first-time freshmen from the four-county area will enroll at MJC-KC. This means that, by that point in time, MJC-KC will attract about 40 percent of all high school graduates in the four-county area, a figure which reflects quite a reasonable expectation in view of experiences elsewhere in the country. Also, the 50 percent figure represents an increase from the "potential" 1966 level of 39.421 percent, which reflects what the MJC-KC share of total first-time freshmen enrollment of students from the four-county area would have been in 1966 had there been a comprehensive MJC-KC in existence then. To estimate the MJC-KC share for the in-between years up to 1979-80, we have linearly interpolated between 39.421 and 50.000 percent, assuming a constant percentage rate of growth each year.

4. Estimation of the In-Migration Factor and the Assumption Underlying the Projections

Since an estimated number of 1,599 of the 1,840 first-time freshmen at MJC-KC in Fall, 1966 came as graduates of high schools within the four-county area, then an estimated number of 241 came from outside the four-county area, including 131 from Kansas. Had there been community colleges on the Kansas side of the Kansas City Metropolitan Area, as are now being planned, this inflow into MJC-KC from the Kansas side would have been close to zero or simply negligible. Therefore, 241 - 131 = 110 students would have enrolled at MJC-KC as first-time freshmen from outside the four-county area. Then, total first-time freshmen enrollment at MJC-KC in Fall, 1966 would have been about 2,508 students, coming from the following sources:

1,599 : supply from within the four-county area
750 : estimated minimum "feedback effect," that is, the number of new students graduating from high schools in the

four-county area who would have attended MJC-KC had there been a comprehensive MJC-KC in existence in Fall, 1966.

49 : estimated number of high school graduates from the four-county area who enrolled as first-time freshmen in two-year public colleges in Missouri other than MJC-KC

110 : estimated number of first-time freshmen who would have come to MJC-KC from outside the four-county area had there been (a) a comprehensive MJC-KC in existence in Fall, 1966, and (b) had there been community colleges on the Kansas side of the metropolitan area as are now being planned. We are making a further assumption here, implicitly, that the existence of a comprehensive MJC-KC would not have attracted a larger inflow of first-time freshmen from outside the four-county area.

TOTAL 2,508

Since the figure 2,508 represents the total first-time freshmen enrollment at MJC-KC in Fall, 1966, under the assumptions just enumerated, then the in-migration factor can be computed as follows. We know (as explained above) that total local (i.e., four-county) supply of first-time freshmen at MJC-KC in Fall, 1966 would have been about 2,398 students, assuming the then existence of a comprehensive MJC-KC. Then, the ratio of "in-migrants" to total local supply would have been 110 ÷ 2,398 = 0.04587, or roughly five percent. We have assumed in our projections that every year up to 1979-80, total local supply of first-time freshmen enrollment at MJC-KC will be increased by five percent as an estimate of the number of first-time freshmen from outside the four-county area that will enroll at MJC-KC.

5. Other Assumptions Underlying the Enrollment Projections

The rest of the assumptions underlying the enrollment projections are in the nature of simple ratios that are shown clearly in Table 10, which presents a comprehensive view of the steps involved in generating these projections. After having projected total first-time freshmen enrollment at MJC-KC, for example, these projections are converted into full-time total number of freshmen by applying to them a conversion ratio of 0.80 or 80 percent, which is based on general experience (Line 8 in Table 10). In Line 9, total full-time freshmen are used as a benchmark to estimate total full-time sophomores, by applying a ratio of 0.42 to total full-time freshmen. This ratio is assumed to increase to 0.66 by the end of the projection period, based on experiences elsewhere and also on the reasoning that through increasingly effective guidance and counseling at MJC-KC, an increasingly greater portion of full-time freshmen will return the following year as full-time sophomores. Similarly, the ratio of full-time unclassified enrollment to total full-time freshmen and sophomore enrollment

(Line 12) is projected to increase from 0.05 or five percent to 0.12 or 12 percent by the end of the projection period. This increase reflects the increasing number of the area's residents who would be interested in pursuing academic studies at MJC-KC without necessarily wanting to be classified as freshman or sophomore. Next, the ratio of part-time students to full-time students (Line 15) is projected to increase from the current experience of 1.3408 to 2.5000, reflecting an increasing participation of the area's residents in the academic and vocational opportunities that will be offered at MJC-KC. This assumption parallels the next assumption on the proportion of part-time students expected to enroll as day-time students (Line 18), which is expected to increase from the present level of about 16 percent to about 33 percent by the end of the projection period. It must be recognized that this assumption concerning part-time enrollment directly involves the extent of adult education demand that will be generated in the community by the existence of a comprehensive MJC-KC.

The assumptions made on Lines 22 and 23 of Table 10 are simply conversion factors for expressing head-count enrollment of part-time students, both day and evening, in terms of full-time equivalent enrollment, and are based on fairly common experience both at MJC-KC and elsewhere.

Where the ratios described above are assumed to change over time, the intermediate years are linearly interpolated under the assumption of constant percentage rate of change (increase) each year.

III. THE EDUCATIONAL PROGRAM

1. Basic Principles for Developing Education Programs in Community Colleges

Community junior college personnel who have had years of experience in developing and operating successful programs of collegiate-technical and occupational education have found that there are some very basic principles which are essential for quality programs. Among these are:

1. Operate an "open door" college, but limit admissions to *courses* and *curriculums* to those students whose abilities and prior experience indicate some chance of success.

2. Provide developmental and remedial courses for those not ready to enter "regular" courses and curriculums.

3. Recognize the differing abilities and interests of students by providing two or more levels of programs in most occupational fields.

4. Adopt a "cluster" or "job-family" approach to occupations and generally plan curriculums for clusters of occupations with a common theoretical core rather than for a single highly specialized occupation. The graduate is then "field-oriented" rather than "job-oriented". He will have greater occupational mobility throughout his working life.

5. Build curriculums with a reasonable general education content, and with significant content in supporting theory courses.

6. Develop new curriculums, for the most part, from *new courses.* Creating "new curriculums" from courses already in the catalog is nearly always a delusion. (But see later rationale for a common core.)

7. Establish and operate a quality guidance program with some degree of *directive counseling.* Excessive permissiveness in educational advisement can lead to confusion in the program and to frustration in the student.

8. Develop a core curriculum approach at least for the freshmen year. (Some ideas for core curriculum planning will be presented later.)

9. Establish and work continuously with advisory committees from business and industry to the end that occupational education programs are realistic and of high quality.

These principles, along with some other ideas for curriculum development, are discussed below:

Characteristics of the "open door" college

Public junior colleges have become identified with the term "open door" in many states. It should be emphasized that the term applies to admission to the college rather than to entrance to a specific curriculum or course. The open door has many "closed door" curriculums. Junior colleges, in order to produce competent graduates from occupational programs, will set end-product standards for completion of their courses and curriculums. These end-product standards are set partly by the job demands of the occupation for which the curriculum is designed. The end-product standards will, to some extent at least, dictate the entry standards into courses and curriculums, since there are obvious limits to what can be accomplished in a two-year program. Some students may have to spend a semester or a year in remedial courses, and it is absolutely essential that the open door college provide for "developmental" instruction. Other students, perhaps lacking both native ability and prior preparation, may have to settle for a program which by its very nature is less demanding than the program they originally wanted. It should be emphasized that, although the junior college opens wide the door of *opportunity*, it is not a panacea for all the ills of society. It is, and will remain, basically an educational institution. It has no recipe for "instant learning", and no formula for the elimination of hard work.

The necessity for several "levels"

Since open door community colleges attract students with such a wide range of abilities (I.Q.'s from 85 up to near genius level) and interests, it is essential that there be available a wide range of courses and curriculums, lest the "open door" become a "revolving door" for many students. There must be several "levels" of English, mathematics, physics, social studies and humanities courses, so that general education can be offered to all students with some chance of success. Also, there should be different levels of occupational curriculums designed to suit job needs and student abilities. For example, there are two well-defined levels of technicians—*engineering technicians* and *industrial technicians,* and consequently junior colleges should have educational programs at both levels. The office occupations field is another good example, with a *secretarial* program at a rigorous (associate degree) level and a *clerk-typist* program at a less demanding level. In the field of nursing, the *associate degree* (registered nurse) program demands students of rather high capabilities, while the *licensed practical nurse* program is a non-degree program and is considerably less rigorous. Many such examples could be cited, but these few are sufficient to make the point. If public junior colleges are to fulfill the promise of post-high school education for all who can profit from it, the program must include offerings which will suit the interests and capabilities of a large percentage of high school graduates. A wide variety of short-term and one-year certificate programs should be provided for students whose abilities and interests do not indicate success in an associate degree curriculum. And, an impressive array of offerings at different levels of rigor should be available in the evening continuing education program.

Many students at Metropolitan Junior College will insist on a college-parallel program even when they are obviously unprepared for work at that level. Many will not be able to keep up the pace in such programs, and an easy transition should be provided to less theoretical and perhaps less rigorous occupational programs for those who do not succeed in college-parallel studies.

Typically, community college programs are planned for high school graduates of average ability, and the quality of instruction is such that occupational competence at entry job levels is reached in a two-year period. The associate degree is ordinarily awarded for the successful completion of two-year occupational education programs.

Kinds of Content

Community college occupational programs consist of three kinds of content:

1. General education
2. Basic theory and supporting technical courses
3. Specialized occupational courses.

General education (the common learnings) should be allotted about one-fourth of the 64-74 credit hours required for graduation with the associate degree. Courses in English, speech, history, political science, psychology, and the humanities are ordinarily included in the general education core, up to about 18 to 20 credit hours. Instead of separate courses, some faculties have planned inter-disciplinary courses in social science, humanities, and science fields.

The rationale here is that, although some general education was offered in the high school, the person who is going to work with or for professionals and who may spend most of his working life as a semi-professional, must be "educated" as well as "job trained." Most persons work on the job only about one-third of their waking hours. The decisions they make in their "living time" (about family, citizenship, ethics, culture, recreation, religion, etc.) are certainly just as important as the actions they take during their working time.

Basic theory courses (science, mathematics, engineering, economics, business administration, etc.) are essential to the satisfactory understanding in depth of the specialized technical and occupational courses. Electronics technology, for example, can hardly be comprehended without a sound base of mathematics and physics. Business data programming skills instruction without an understanding of basic accounting procedures, would be a rather meaningless conglomeration of "nuts and bolts" operating procedures. Basic theory courses ought to comprise about one-fourth of the total program for the associate degree.

Specialized occupational courses constitute the vehicle which carries the student to actual job competence in an entry job. These courses are planned with job requirements in mind, and they have a rather heavy emphasis on the actual manipulative skills required to perform on the job (use of tools, instruments, gauges, office machines, scientific or research equipment, machine tools, chemical or medical equipment, etc.). Lay advisory committees from the specific industry or agency involved can be of great help in planning and setting end-product standards for these courses. Ordinarily nearly one-half of the total credit hours in the two-year curriculum is made up of specialized occupational courses.

Figure 2 (next page) shows how the general education core, the basic theory core, and the specialized courses may be related to one another. Note that the scheme provides for remediation *before entering* the associate degree program for students whose high school grades and/or aptitude test scores fall below previously determined entry standards for the beginning courses of the associate degree curriculum. It is recommended that MJC-KC adopt some such core curriculum scheme. In addition to its other advantages, such a scheme would facilitate the movement of students from one campus to another, for highly specialized sophomore work offered perhaps at just one location.

Guidance and Counseling

The success or failure of a comprehensive educational program at a community college depends to a large degree upon the operation of a well-conceived and efficiently operated guidance and counseling system. Figure 3 shows a model for such a system which could well be emulated by Metropolitan Junior College.

Note that the guidance model assumes that there has been effective articulation between the community college guidance program and the counseling programs in the high schools of the district. If this is not currently the case in the MJC-KC District, steps should be taken immediately on a bi-lateral basis to remedy such a weakness. It is assumed that, at a minimum, there would be available for each student from his high school record, the following:

1. A complete transcript with all high school grades and either a decile or quartile ranking in his graduating class.
2. An I. Q. or other measure of general academic ability.

In addition, every applicant for admission to the junior college should be given a group of standardized tests, including:

1. An achievement—college aptitude test such as the CEEB-SAT, or the DCAT.
2. A career interest test such as the Strong or the Kuder.
3. An English classification and/or reading test.

FIGURE 2 SUGGESTED CORE CURRICULUM PLAN COMMUNITY COLLEGE ASSOCIATE DEGREE OCCUPATIONAL EDUCATION PROGRAM

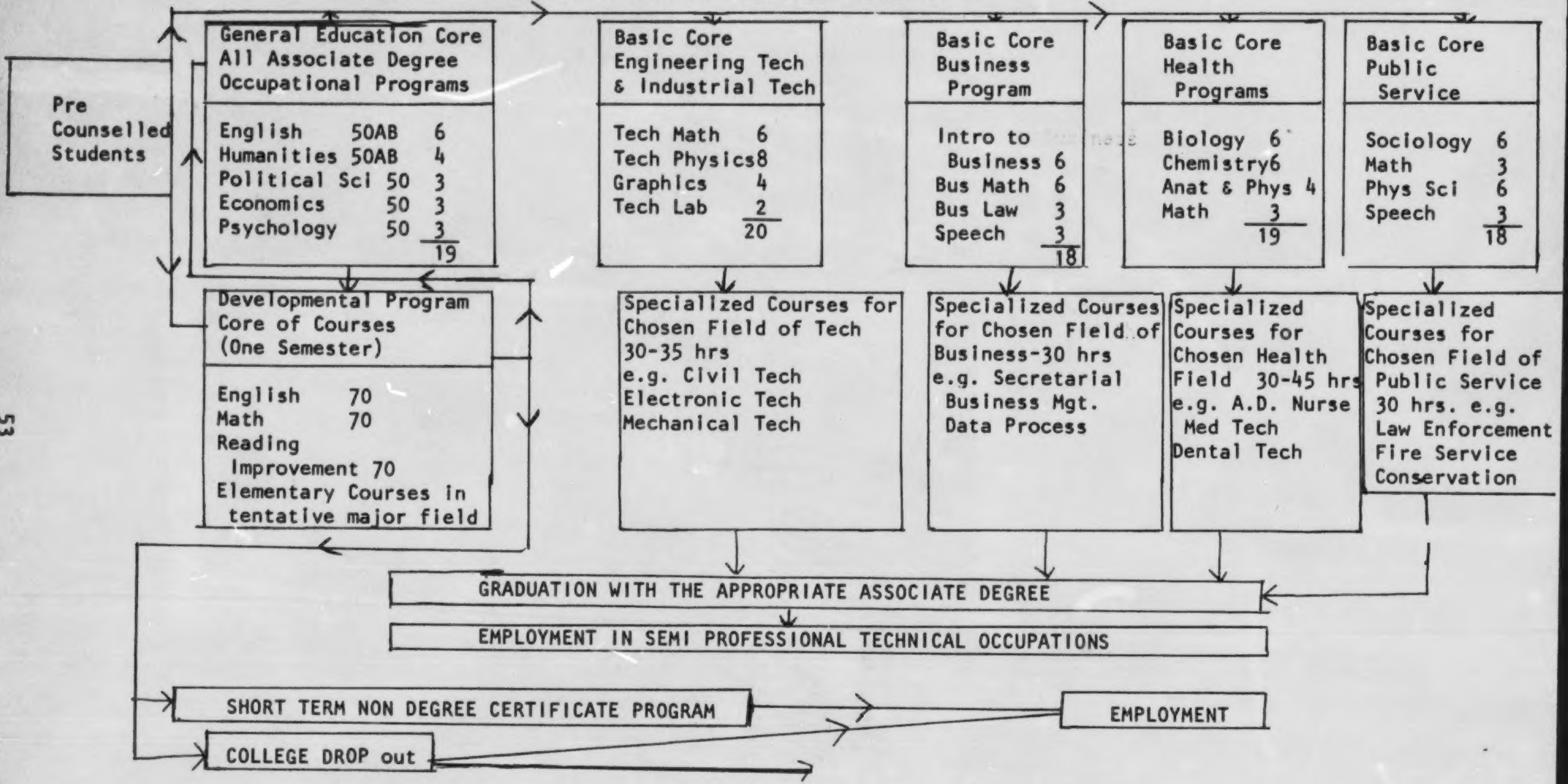
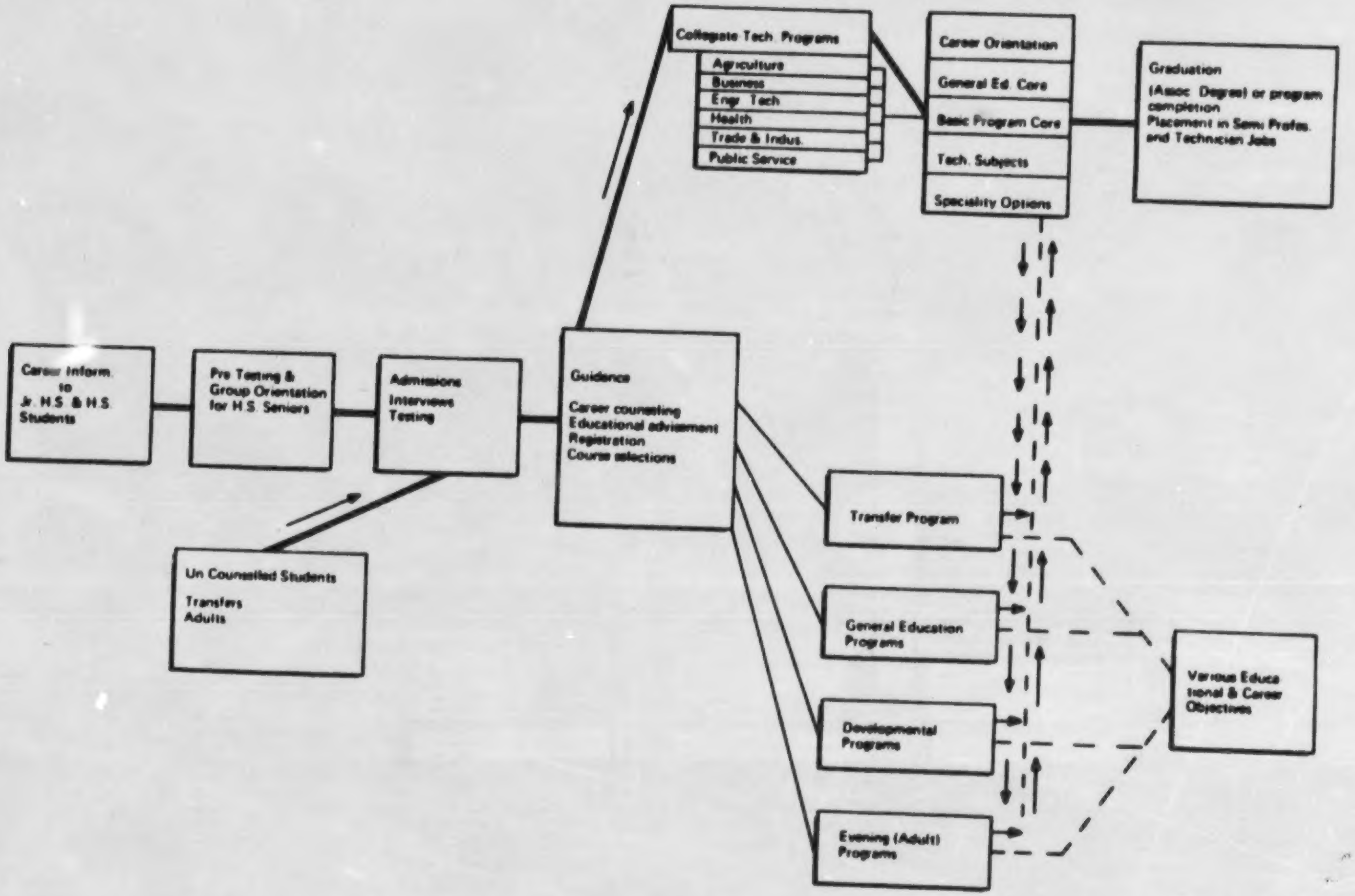

Pre Counselled Students
General Education Core All Associate Degree Occupational Programs
English 50AB 6
Humanities 50AB 4
Political Sci 50 3
Economics 50 3
Psychology 50 3
19
Basic Core Engineering Tech & Industrial Tech
Tech Math 6
Tech Physics 8
Graphics 4
Tech Lab 2
20
Basic Core Business Program
Intro to Business 6
Bus Math 6
Bus Law 3
Speech 3
18
Basic Core Health Programs
Biology 6
Chemistry 6
Anat & Phys 4
Math 3
19
Basic Core Public Service
Sociology 6
Math 3
Phys Sci 6
Speech 3
18
Developmental Program Core of Courses (One Semester)
English 70
Math 70
Reading Improvement 70
Elementary Courses in tentative major field
Specialized Courses for Chosen Field of Tech 30-35 hrs e.g. Civil Tech Electronic Tech Mechanical Tech
Specialized Courses for Chosen Field of Business-30 hrs e.g. Secretarial Business Mgt. Data Process
Specialized Courses for Chosen Health Field 30-45 hrs e.g. A.D. Nurse Med Tech Dental Tech
Specialized Courses for Chosen Field of Public Service 30 hrs. e.g. Law Enforcement Fire Service Conservation
GRADUATION WITH THE APPROPRIATE ASSOCIATE DEGREE
EMPLOYMENT IN SEMI PROFESSIONAL TECHNICAL OCCUPATIONS
SHORT TERM NON DEGREE CERTIFICATE PROGRAM
EMPLOYMENT
COLLEGE DROP out

FIGURE 3 FLOW CHART–SUGGESTED GUIDANCE PROGRAM COMPREHENSIVE COMMUNITY COLLEGE


Career Inform. to Jr. H.S. & H.S. Students
Pre Testing & Group Orientation for H.S. Seniors
Admissions
Interviews
Testing
Guidance
Career counseling
Educational advisement
Registration
Course selections
Un Counselled Students
Transfers
Adults
Collegiate Tech. Programs
Agriculture
Business
Engr. Tech
Health
Trade & Indus.
Public Service
Career Orientation
General Ed. Core
Basic Program Core
Tech. Subjects
Speciality Options
Graduation
(Assoc. Degree) or program completion
Placement in Semi Profes. and Technician Jobs
Transfer Program
General Education Programs
Developmental Programs
Evening (Adult) Programs
Various Educational & Career Objectives

Putting all of these factors together, a profile for each applicant can be prepared in advance of his "career counseling" interview. The student's own profile can be compared with a "standard profile" representing the mean scores of college freshmen on the same group of tests. The test results are explained to the student in this initial interview and his stated career goals and educational program choices are discussed in the light of his capabilities as indicated on his profile. For those students who indicate a specific career choice for which good aptitude tests exist, one or more additional tests may be recommended. For example, there are useful predictive tests available in fields such as engineering and physical science, nursing, and secretarial science.

As a result of the career counseling interview(s) a *tentative* career choice may emerge. This choice may indicate a college-parallel program, an associate degree occupational program, a developmental education program, or a short-term, non-degree vocational program. *We emphasize that this early choice is tentative only.* The great advantage of the community junior college is that it provides for the "late bloomer", allows for delayed decisions, and recognizes that many students will change career goals, and therefore educational programs, during their college years.

In general *(and it is emphasized that only the roughest approximations can be made)* studies of the success and failures of community college students support the following guidelines:

1. Students whose total profile presents a picture of being at or above the mean for college freshmen (on national norms) may be encouraged to enter a college-parallel program, if specialized ability coincides with career choice (high mathematics scores for a career in science, for example). Other students, with "spottier" records may succeed in college-parallel work after taking one or more remedial courses.

2. Students whose total profile places them in the middle 50 percent (second and third quartiles) on national college freshman norms could be expected to succeed in an associate-degree collegiate-technical level occupational education program.

3. Students in the top half of the lower quartile could be encouraged to enroll for a vocational level program where the emphasis would be on specialized manipulative skills, rather than on further academic and cognitive work. It is unlikely that students in the lower quartile of academic ability will succeed in collegiate-technical level programs.

4. Finally, those students (and there are many of these in an open-door college) whose profiles indicate that they are at or below the 10th percentile compared with college freshmen nationally, *should be required* to enroll in one or more developmental courses or clinics (especially reading, English skills, mathematics) until their ability level improves to the point where success in a "regular" program

would be indicated. While enrolled in a developmental or remedial course in a "weak field", a student could be simultaneously enrolled in a "regular" course in a field where he was not "weak".

The use of such guidelines, with some considerable emphasis on directive counseling where choice of courses is concerned, will go a long way toward getting students off to a good start in programs and courses in which they can succeed. Success breeds success and failure breeds failure. The wise counselor, using the student's own past record of achievement and the results of predictive tests, will get each of his counselees started at a level consistent with his capabilities.

Developmental Education

For whatever reasons, hundreds of "unprepared" youth enroll in community colleges each year. It accomplishes little to engage in polemics about where the fault lies; and if society's interests are to be well served absolutely nothing is accomplished by setting admissions standards which turn them away. If education is a recognized "good" in a free society (and Americans generally are committed to this principle) increments of education and training provided for the many average and slow learners, conceivably can add up to a societal good at least equal to that resulting from the advanced education of the few. Such a philosophy is almost a *raison d' etre* for community colleges, since they have many "average" and "below average" students and relatively smaller numbers of "superior" students.

Metropolitan Junior College has already initiated a study on the need for developmental education. A faculty committee studying the problem submitted its report (1) on July 20, 1967. The report stresses the need for a developmental education program at MJC-KC and makes suggestions for its establishment and operation.

We strongly recommend an immediate and continuing effort in this field, including clinical and course work (with student learning laboratories featuring audio-tutorial and other "new media" methods) designed to correct deficiencies in reading, writing, speaking, and mathematics. The entire developmental education project should be closely integrated with career counseling, educational advisement, and placement to the end that students whose deficiencies are removed can proceed in the proper educational program and those whose abilities do not respond to remediation can be assisted by the college into entry employment.

Advisory Committees

Lay advisory committees. Educational programs to fit *national and regional manpower needs* can be planned effectively by educators who keep themselves informed about the findings of manpower research. The assessment of *local manpower needs*, however, requires local inputs. Community occupational surveys, if updated frequently, furnish data for educational planning. Equally good data can be obtained on a more-or-less continuous basis from lay advisory committees.

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[1] Finch, Harold L., et al; Developmental Education: Analysis of the Needs at MJC-KC, the Junior College, Kansas City, Mo., 1967

Several advisory committees should be established as soon as possible to assist the faculty and staff of the college in planning for the expansion and improvement of the occupational education program. A few suggestions for "standing" committees are offered:

1. Advisory Committee on Aviation Programs.
2. Advisory Committee on Business Education.
3. Advisory Committee on Health and Medical/Dental Programs.
4. Advisory Committee on Engineering Technology Programs.
5. Advisory Committee on Public Service Programs.

These are merely illustrative. Perhaps as many as a dozen might be useful. Each might have about fifteen members. A scheme for rotation of members on a two-year basis is recommended.

Ad-hoc advisory committees. For the detailed planning of specific programs and courses *ad hoc* committees may actually be *sub-committees* of one of the standing committees (with additional persons appointed who possess the specialized competencies needed).

A committee structure such as this requires a great deal of planning and staff time. The president himself, and deans and assistant deans will be involved in most of the major committees. Division and department chairmen, and individual faculty members will meet with the more specialized, *ad hoc* committees. Such a committee structure may well involve several hundred influential citizens of the Greater Kansas City area. The total contribution of this kind of college—community cooperation is incalculable. Just a few of the "dividends" are listed:

1. Realistic planning of occupational programs for local needs.
2. Possible use of part-time faculty from industry and business.
3. Possible development of cooperative work-study programs.
4. Assistance in recruitment of students for new programs.
5. Coordinated placement of graduates in jobs related to their training.
6. Possible availability of equipment or "hardware" for instruction.
7. Interpretation of the college to the community; and of the community to the college.

2. Analysis of Program Needs

A. College-Parallel, Liberal Arts, and Academic Studies

We begin this section with a discussion of the more traditional "college-parallel programs" not from a sense of any hierarchy of learning, but merely because these are well known areas of effort at MJC-KC, and the discussion can therefore be somewhat brief, compared to the next section on occupational program development. To place this section at the end might convey the false impression that academic and liberal arts education are judged to be relatively unimportant in junior colleges. Nothing could be farther from the truth. We wish to emphasize that, although greater planning effort may be required to establish and operate occupational programs than is required for "transfer" and liberal arts programs, the role of the junior college in college-parallel, pre-professional, and liberal arts education is well-established, necessary, and of high priority. The comprehensive community college provides education of high quality for both groups of students—those whose next goal is upper division academic study, and those whose next goal is a job.

We have observed the college-parallel, liberal arts, and academic studies programs at MJC-KC quite carefully and find them to be of uniformly good (some, excellent) quality. The record of transfer students over the years attests to the standards of performance attained by students in these programs at MJC-KC.

The fact that MJC-KC has been accredited by the North Central Association of Colleges and Secondary Schools since 1918 speaks well for its academic excellence. In April of 1965 a visiting team from the North Central Association again examined the college and recommended a "transfer of accreditation" from the old governing body to the new district board. It should be pointed out, however, that the examiners' report of that year pointed out twenty-eight (28) specific (and in some cases very serious) weaknesses which should be corrected at the earliest possible opportunity. Nearly three years have passed since that evaluation, and although progress has been made on some fronts, serious weaknesses still exist. No purpose would be served by listing these in detail here, since the North Central Association report referred to is readily available to the staff and the governing board of the college.

A few suggestions will be offered here, however, for the overall improvement of the academic-liberal arts-college transfer program. It is recognized that some of the suggestions can hardly be implemented until a new campus (or campuses) become(s) available; but it is equally important to recognize that some of them do not require "bricks and mortar" at all; but leadership and faculty involvement (and perhaps additional monies) to initiate change.

Some Suggestions for Improving the College-Transfer Liberal Arts, Academic Programs. (Not in order of priority).

1. Build a much stronger program in the fine arts and the performing arts—music, drama, painting, sculpture, ceramics, etc. Project these programs into the community itself. Sponsor drama festivals, arts festivals, musical events, colloquia, and other cultural activities. Tie the college into community efforts in these fields.

2. Take the initiative to establish a number of Liaison committees to work with nearby four-year colleges and universities, in order to maintain articulation for the college-parallel program.

3. Continual improvement of library holdings and library services is essential. Furthermore, the concept of *instructional resources* should replace the traditional idea of a book-oriented library. New media hardware and software should be evaluated and purchased, and learning laboratories for student use should be made available at strategic locations throughout the college.[1]

4. Laboratories and facilities for science and engineering instruction are in urgent need of improvement. Equipment, instruments, and apparatus are at present inadequate for college-level instruction.

5. The faculty and staff should develop a more adequate philosophy of general education and then proceed to implement it with courses specifically designed for the broad general education of youth. At present, the philosophy is apparently one of satisfaction with a selection of courses from the "regular" college parallel or pre-professional requirements.

6. There have been some recent improvements in the guidance program, but much remains to be done. Student personnel services generally, should receive a great deal more attention than they have in the past.

7. The present situation with regard to physical education and health education is not characteristic of community junior colleges, and steps to improve it should be a first order of priority.

8. A carefully planned program of developmental education of a pre-academic type should be initiated for the specific purpose of "salvaging" the potential transfer student. Many students may enter the college as freshmen with English, mathematics, and reading skills at such low levels that college-parallel work would seem inadvisable.

   Diagnostic methods should be developed which will permit a differentiation between the temporary "academic cripples" (who can be salvaged by remediation) and those whose basic abilities and/or interests are such that a college parallel objective is not indicated.

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[1] See Where Students Study, Educational Facilities Laboratory, Stanford University, Palo Alto, 1965.

As MJC-KC develops campuses or centers in several different locations in the district it is essential that a high quality program of college-parallel, liberal arts, and academic studies be offered at each and every location. The very necessary emphasis on guidance and on developmental and remedial instruction discussed above, should be present on all campuses as well.

B. Occupational Education Program Needs

The extended discussion to follow, including the suggestions for manpower and educational program needs, is based on research findings from three major phases of the present study: (1) A study of the economy of the Kansas City Metropolitan Area; (2) a study of the manpower requirements of the Kansas City Metropolitan Area, with projections to 1975; and (3) a study through depth interviews with employers of the most critical needs of greater Kansas City for "middle manpower" workers.

The results of the first two of these three studies are found in Chapters of the Report, and only their implications for community junior college education will be highlighted in the present discussion.

The depth interviews research spanned a time period of nearly four months and featured visits to manufacturing plants, business, and government agencies; and extended interviews with officials most knowledgeable about the needs of their firms and agencies for employees at the "middle manpower" level. Twenty-six corporations, businesses, institutions, and agencies were visited, the aggregate manpower requirements of which total over 74,000 employees at all levels from professionals to unskilled laborers. The following areas of economic activity were sampled in depth:

Agriculture and farm supplies
Aviation
Banking and Finance
Chemicals manufacturing
Durables manufacturing
Education
Electrical and electronics manufacturing
Government—federal and local
Health/medical/hospitals/dental
Heavy equipment manufacturing
Labor, and the trades and crafts
Public utilities
Retailing and wholesaling
Science and research and development
Specialty manufacturing

Recapitulation from the Kansas City Area Economy Study

Our studies show a steady economic growth over the past three decades, and the present national and regional situation, together with factors at work in Kansas City itself, indicate an accelerated economic growth rate for the area. Structural shifts have been occurring throughout the present decade and these will probably continue. From a distribution center and a regional manufacturing center for non-durable goods, Kansas City has become in this decade a major manufacturing center for durable goods. Much of the manufacturing is of a sort which requires sophisticated research and development activity and an emphasis on quality control.

Recent growth in the service industries and in government employment (various estimates of federal government employment in the Kansas City area center around a figure of 24,000) perhaps foreshadow a decade ahead in which the service industries, including government, may grow at a faster rate than the manufacturing and wholesale and retail trade sectors of the economy.

These factors are of considerable significance for community college planning, since a large share of the job in research-and-development-oriented manufacturing, and in the service industries, including government and health services, are "middle manpower" jobs necessitating post-high school education and training best offered by a junior college.

Implications from the basic manpower study

Our study of manpower demands to 1975 indicates a gain of 71.5 thousand new jobs in non-agricultural industries, about half of which (36 thousand) will be in government, services, and finance-insurance-real estate. Manufacturing employment will gain about 15 thousand new jobs, and the transportation-communication-utilities sector combined with wholesale and retail trade will gain about 13 thousand new jobs. Contract construction activities will generate about 7.3 thousand new jobs by 1975.

In a prior chapter, it was stated that in the years to 1975 an average of 22,000 new employees per year will have to be added to the labor force of the Kansas City Metropolitan Area. Data from the basic manpower study are collected here to show how the total needed new manpower will be divided among broad occupational groups.

Occupational Group	Percent of Average Annual Manpower Requirements
Professional, technical, and kindred	18.1 percent
Managers, officials, and proprietors	8.6
Clerical and kindred	26.3
Sales and advertising	7.3

Occupational Group	Percent of average annual Manpower Requirements
Craftsmen, foremen, and kindred	11.2
Operatives and kindred	12.9
Service workers	14.1
Laborers	1.4

The inference is clear from these data that occupational groups requiring significant levels of education and training will offer a growing number of job opportunities, while those occupational groups not requiring specialized or advanced training will offer the fewest job opportunities.

Our manpower research has provided data on some 27 specific occupational categories which are more or less related to community junior college programs of education and training. From these data we identify in Table 15 a number of occupations in which the average annual requirement for *new* employees is significant (15 or more) and for which a post-high school but less-than-baccalaureate educational program is ordinarily necessary or desired.

There is a definite indication of need here for community junior college occupational education programs in all the following fields:

Business education, including office occupations, accounting, sales, and advertising.

Health technologies education

Technical education for industry and science research.

Service occupations education.

Short-term, job-upgrading programs for craftsmen, foremen, and managers.

The essential findings from the depth interview study

The advantages of depth interview research for educational planning are many. Some are listed herewith:

1. Persons in key management positions are thereby acquainted with the college's plans and more often than not are exceedingly helpful in pin-pointing manpower requirements.
2. Detailed information about jobs and job clusters can be obtained. Exact job descriptions are made available. Occupational classifications and groupings are the *current* ones instead of those of a decade or more ago.

TABLE 15

OCCUPATIONS FOR WHICH THERE IS A SIGNIFICANT ANNUAL DEMAND FOR NEW EMPLOYEES, AND FOR WHICH COMMUNITY JUNIOR COLLEGE TRAINING IS INDICATED

Occupation	Net Total Average Annual Requirements
Accountants and auditors (some J.C.)	224
Designers and draftsmen (mostly J.C.)	224
Surveyors (mostly J.C.)	107
Nurses, R.N. (some J.C.)	368
Radio operators (could be J.C.)	32
Med/Dent. technicians (some J.C.)	171
Electrical/electronic technicians (mostly J.C.)	160
Bookkeepers (some J.C.)	385
Office machine operators (some J.C.)	593
Secretaries, stenos, typists (some J.C.)	1566
Craftsmen, foremen and kindred (Most persons enter these occupations through apprenticeships--minor involvement by J.C.)	2469
Managers, officials, etc. (some J.C.)	1890
Salesworkers (some J.C.)	1613
Operatives (usually not J.C.)	2842
Service workers (some J.C. but many are not)	3091
Laborers (no J.C.)	313

Note: The notation, "Some J.C.", means that some persons in this grouping would need junior college education and training, while others might be prepared in a high school, a vocational school, or a business college; and in some cases a baccalaureate degree might be required.

3. Exact information about the specific jobs for which junior college training is desired can be obtained. For example, information which differentiates between chemical technicians, mechanical technicians and electronic technicians is readily accumulated.

4. Information on completely new job classifications and expected major shifts in industrial employment can be acquired.

5. Valuable suggestions on curriculum and course development are frequently offered by the very people who will employ the junior college graduate.

6. The extent to which industry might cooperate with the college in developing occupational education can be explored.

7. From observations of the actual operations of the plans and discussions of the nature of the work being done, decisions about curriculum content can be more realistically made. For example, in a two-year curriculum for electronic data programmers, what would be a proper division among these facets of curriculum?

    1. Specialized training on the computer.
    2. Background theory in accounting and business systems
    3. Background theory in mathematics and electronics
    4. General education in the liberal arts and humanities.

All of the above factors were discussed at length in most of the interviews. There was almost universal enthusiasm among the officials interviewed for the future development of strong programs of occupational education at MJC-KC.

As a result of the depth interviews a large number of more-or-less severe manpower shortages at semi-professional technical, and highly skilled levels were identified as being currently characteristic of the greater Kansas City area. These are listed in Table 16 under five major categories: Agriculture, Business, Health/Medical/Dental, Industry/Engineering/Science, and Services.

Based on the twenty-six interviews reported in Table 16 we conclude that there is a significant, and in some instances, critical need for persons to fill middle manpower jobs in most areas of Greater Kansas City's economy. The actual need for collegiate-technical programs may be even greater than is indicated from current interviews since the Kansas City Junior College of past years has not built any image in the community as a potential source of trained manpower, and industry and business officials are not accustomed to thinking of the college in that light.

TABLE 16
MANPOWER NEEDS OF GREATER KANSAS CITY AS DETERMINED BY DEPTH INTERVIEWS

(Semi-professional, technical, and highly skilled--"middle-manpower" levels)

Agriculture
- Agri-business specialist
- Agricultural technician

Business
- 1. Office Occupations
    - Secretary
    - Stenographer
    - Clerk-typist
- 2. Management Occupations
    - Accountant (less than CPA)
    - Data Programmer
    - Data processing technician
    - Credit and collections supervisor
    - Insurance salesman
    - Banking and finance personnel
- 3. Sales and Advertising Occupations
    - Merchandising trainee
    - Advertising layout man and copy writer
    - Assistant buyer
    - Traffic manager (shipping and receiving)
    - Outside salesman
    - Sales representative and/or estimator
    - Commercial artist
    - Fashion Designer

Health/Medical/Dental
- Dental office assistant
- Medical office assistant
- Medical laboratory technician (ASMT)
- Registered nurse (associate degree)
- Surgical (operating room) technician
- Medical records secretary
- Unit manager, (nursing station)
- Inhalation therapist
- X-Ray technician
- Dental technician

TABLE 16 (Cont)

- Industry/Engineering/Science
  - Aeronautical engineering technician
  - Chemical technician
  - Civil engineering technician
  - Mechanical engineering technician
  - Electronics technician

    Options: Communications
    Industrial electronics
    Computer
  - Electrical power technician
  - Engineering laboratory technician (general)
  - Architectural draftsman
  - Drafting and design technician
  - Industrial supervisor (foreman)
  - Service representative
  - Instrumentation technician
  - Service representative
  - Air conditioning/heating/refrigeration technician
  - Operating engineer (co-op with union)
  - Sanitation technician
  - Heavy equipment operator
  - Aviation industry specialists
    - Aircraft pilot
    - A & P mechanic
    - Transportation agent
    - Reservation agent
    - Air traffic controller
    - Aircraft electronics technician
  - Automotive technician

- Services
  - Cafeteria manager
  - Hotel and restaurant manager
  - Chef, cook, and other food preparation specialists
  - Community recreation aide
  - Teacher aide
  - Educational (A-V) technician
  - Social worker aide
  - Law enforcement officer
  - Fireman
  - Urban development aide

The sixty-odd occupations in the above listing represent a kind of consensus among the many persons interviewed. All the occupations on the list were identified by many knowledgeable officials as being needs of the metropolitan area which are immediate and continuing. Graduates of two-year associate degree programs in all the fields listed, would in the opinion of the officials interviewed, receive many job offers with entry salaries ranging from a low of $425 per month up to as high as $600 per month. Mean salaries after five years' experience would range from $550 to $750 per month. For most of the job fields listed, the Kansas City area could continue to aboarb, year after year, all the well trained persons the junior college could produce, in the opinion of these officials.

There was unanimous agreement that Kansas City has not had a great deal of realistic occupational training in the past, and the possibility that MJC-KC would change that situation for the future was greeted enthusiastically. Most officials interviewed felt that, for the "middle manpower" jobs being discussed, college level education and training is now and will increasingly be in the future, a necessity.

Programs Presently Offered.

During the 1967-68 academic year MJC-KC is offering occupational education programs in the following fields:

Accounting and general business

Aircraft pilot training

Dental assisting

Drafting

Engineering technology

Data processing

Hotel and restaurant training

Nursing

Police science

Secretarial training

Enrollments in most of these curriculums are reasonably good, and, within the limitations imposed by crowded conditions and outmoded facilities (in some, but not all of the programs), the quality of instruction is judged good to excellent. The challenge for the future is to expand existing programs to accommodate greater enrollments, and to add new programs just as rapidly as the availability of facilities will permit.

Need is one factor in the equation of educational program development. *Capability* is another, and sometimes it has to override need in importance. Capability includes financial resources, facilities, and faculty availability.

A third factor in the equation — one which is sometimes overlooked — is the *interest of students* in enrolling in the several "needed" programs. Perhaps this third factor is the real determinant in the entire equation. It is a particularly troublesome factor because, although good jobs at good pay are readily available to the graduates of junior college occupational programs, the pressures of our college-degree-oriented society, peer pressures, parental pressures, etc., all combine to turn student interest away from occupationally-related curriculums into the college-parallel or "transfer" program. MJC-KC, just as junior colleges everywhere, will find that students do not flock eagerly to occupational education programs. Recruitment, and an effective, realistic, system of career counseling and educational advisement will be necessary.

We have already discussed *need* at considerable length. Let us now give some attention to *capability.*

Elsewhere in this report a general plan providing for three campuses or educational centers is projected. One of these will be referred to here as the *south suburbs campus,* one the *city center campus,* and one the *north counties campus.* It is assumed that the city center campus will be developed as soon as possible and that by 1972 it will be in nearly full operation with a capability of accommodating nearly 7000 students by that date. (See enrollment projections in another section.) It is further assumed that the south suburbs campus and the north counties campus will be partially developed by 1972, with a potential for 1500 to 3000 students each.

We recommend that each campus have all the facilities, programs, and courses for basic general education, liberal arts and humanities education, and academic and preprofessional college-parallel programs. Quality guidance and career counseling services should be provided at all three campuses. Each campus should have an excellent library, a student union or commons, facilities for music, drama, and the arts; and facilities for sports and physical education. Each campus should have facilities for and programs in the field of continuing education and community service. For basic general education then, and for college parallel work and for "extra-curricular" activities, campuses will be undifferentiated.

For occupational-education programs, however, some differentiation of function will probably be necessary and desirable. There are at least three reasons why this is so:

1. The staggering cost of equipment and facilities for some highly specialized programs, makes it unwise (and probably impossible) to duplicate such installations.

2. The fact that for some specialized programs, enrollment from the entire metropolitan area may be needed to achieve an acceptable size for the program.

3. The advisability of the geographical location of some programs near agencies, businesses, or industries where students may work as a part of their training.

Some suggestions for differentiation of function will be made in a later section.

Some approximate costs are listed in Table 17 for equipping laboratories and shops for occupational education programs. It should be emphasized that the sums listed are just for equipment, tools, instruments and apparatus. They do not include the cost of the space itself nor the installation of heat, lights, ventilation, power, or other services.

TABLE 17
SOME TYPICAL MINIMUM COSTS FOR FACILITIES AND EQUIPMENT
(20 to 30 Student Stations Assumed)

1.	An office machines laboratory	$ 30,000
2.	A computer/data processing lab (or rent at $2000 monthly and up)	100,000 up
3.	An electronics technology lab suite – 3 labs	200,000
4.	A technical chemistry lab, with pilot plant	185,000
5.	An air-conditioning/refrig. lab	60,000
6.	A mechanical engr. tech. lab	200,000
7.	A civil engr. tech. lab	40,000
8.	A technical physics lab	25,000
9	Laboratories for medical technology	65,000
10.	An automotive technology lab (unless many "gifts" are obtained)	100,000
11.	An A. & P. aviation shop (less gifts)	200,000
12.	An agricultural technology shop	100,000
13.	Commercial art laboratory, including photography, graphics, etc.	95,000
14.	Med/dental tech. laboratory	100,000
15.	An instrumentation and quality control lab	85,000

Obviously, some of these facilities should not be duplicated on all three campuses, just from cost considerations alone. Concentration of effort for a given occupational program on just one campus might be advisable for the other reasons mentioned also.

Student interest. In the spring of 1966 MJC-KC conducted a study of the post-high school plans of the then junior and senior classes in the high schools of the district.[1] Some general findings of the survey are included in Table 18.

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[1] Survey of Student Interest in Technical Education Among High School Juniors and Seniors of the MJC-KC District. Technical Division, MJC-KC, Kansas City, Missouri, 1967: Mimeo.

TABLE 18
FINDINGS FROM STUDENT SURVEY OF 1966 HIGH SCHOOL JUNIORS AND SENIORS

	Juniors	*Seniors*
Total questionnaires returned	7293	6708
Percent of total students in district	89.5%	76.1%
Number who plan to attend college	5576	4920
Number who plan to attend MJC-KC	1431	1308
Number planning college elsewhere	4145	3612
Percent of total "college bound" who intend to enroll in MJC-KC	25.6%	26.6%
Percent of those planning to attend college who intend to enroll in "technical" programs	34.9%	28.3%
Percent of those planning to attend college who intend to enroll in academic program	65.1%	71.2%
Percent of those wanting technical program who intend to enroll in MJC-KC	32.3%	33.9%
Percent of those wanting academic program who intend to enroll in MJC-KC	24.6%	23.4%

One of the noteworthy findings of this study is that of all juniors and seniors planning on going to college, about one-fourth intend to enroll in MJC-KC. The consistency between juniors' and seniors' plans is significant. Another finding is that among those students planning on post-high school "technical education," only about one-third intend to enroll at MJC-KC.

This situation will change, of course, as soon as the college can provide campuses or educational centers with a college atmosphere, and expand facilities for high quality occupational education programs. By 1975, assuming the full development of three campuses by that time, and also a heavy commitment to occupational education, it is entirely probable that MJC could attract, from each year's high school graduating class, fully 50 percent of all who go on for post-high school education. In several states, and in many communities, this figure is already exceeded.

It should be emphasized, however, that a determined recruitment effort will be necessary for many of the occupational education curriculums. As these programs develop there must be a strong effort in public information directed to high school students, their parents, and to high school teachers and counselors. Just because employers "need" an educational program is no guarantee that students will enroll in it.

In the study referred to (Table 18) those seniors who indicated they would want a college-level technical program were asked to indicate the extent of their interest in some twenty-seven existing or planned programs at MJC-KC. They were also asked again, whether or not they would choose MJC-KC for their post-high school education training. The results are displayed in Table 19.

TABLE 19
TECHNICAL EDUCATION CHOICES OF 1966 HIGH SCHOOL SENIORS ALL HIGH SCHOOLS IN MJC-KC DISTRICT

Technical Program	*Total Number Desiring Program*	*Number Who Will Attend MJC*	*Percent Planning on MJC-KC*
Secretarial	396	145	36.5%
Accounting	155	58	37.4
General Business	189	67	35.4
Data Processing	101	53	52.4
Hotel and Restaurant	36	12	33.3
Merchandising	25	9	36.0
Electrical/Electronic	139	52	37.4
Engineering Drafting	103	36	34.9
Architectural Technology	46	17	36.9
Mechanical Technology	82	23	28.0
Civil Technology	10	3	30.0
Medical Records Technology	15	7	46.6
Medical Office Assistant	20	8	40.0
Nursing, Assoc. Degree	52	12	23.1
Nursing, Diploma	87	21	24.1
Dental Assisting	38	13	34.2
X-Ray Technology	31	16	51.6
Medical Lab Technology	33	7	21.2
Agriculture	11	2	18.2
Fashion Design	82	12	14.6
Advertising and Comm'l. Art	59	11	18.6
Police Science	49	20	40.8
Recreation Supervision	17	5	29.4

Assuming that an improved public information program will popularize both technical education and MJC-KC, it would appear that economically feasible enrollments in most of these technical programs could be expected within the next two-year period, if facilities are available.

3. Synthesis of the Findings

We have conducted several research projects whose results are related to educational program development. These are listed again here:

1. A study of the economy of the Kansas City Metropolitan Area: Projections to 1975.
2. A study of the manpower requirements of the Kansas City Metropolitan Area Economy: Projections to 1975.
3. An in-depth study of middle manpower employment and needs by ADL staff visits to twenty-six corporations, business firms, institutions, and government agencies employing over 74,000 persons, with heavy employment in the "middle manpower" spectrum.

In addition, the data from the MJC-KC study of 1966 high school juniors and seniors is quite useful. Furthermore, comparable data are available from cities and districts operating comprehensive community colleges, and the ADL staff has used these data to assist in the interpretation of local data. The cities of Seattle, Washington, Fresno, California, Cleveland, Ohio, and Honolulu, Hawaii, make interesting and useful comparisons.

Finally, the judgment of our junior college consultants is an input to the working equation.

In our judgment the following occupational education programs should be in operation by 1975. Some of them are in operation now. Others should be phased in as facilities become available. Suggestions as to timing the initiation of new programs are offered in a later section.

Needed Occupational Educational Programs: Projections to 1975

A. Business Occupations Group

Accounting

Business management
  Options: Merchandising
    Banking and finance
    Small business

Business data programming
  Options: Technician
    Machine operator
    Key punch

Sales and advertising
  Options: Commercial art
    Fashion design
    Copy-writer
    Sales representative

Secretarial
  Options: Executive secretary
    Legal secretary
    Technical secretary
    Stenographer
    Clerk-typist

B. Health Occupations Group

- Dental office assisting
- Inhalation therapy
- Medical office assisting
- Medical electronics technician (EKG, etc.)
- Medical lab technician (ASMT)
- Medical records secretary
- Nursing
  - Options: Associate degree (emphasis)
  - Diploma (Co-op with hospitals, phase out gradually)
- Operating room technician (sometimes called "surgical technician")
- Unit management (nursing station)
- X-ray technology

C. Industry/Engineering/Science Occupations Group

- Air conditioning/refrig. technician
- Aviation industry occupations
  - Options: A. and P. mechanic
  - Aircraft pilot
  - Air traffic controller
  - Counter and ramp personnel
- Chemical technology
- Drafting and design technology
  - Options: Civil
  - Electrical/electronic
  - Mechanical
  - Engr. lab (general)
- Industrial supervision
- Instrumentation technology
- Operating engineering technology
- Sanitation technology

D. Agriculture Occupations Group

- Agri-business
- Agricultural technology

E. Service Occupation Group

Community recreation specialist training
Educational (new media) technology
Hotel and restaurant management
Fire service training
Law enforcement
Social worker aide training
Teacher aide training

4. Probable Enrollments in Occupational Education Programs

Curriculum development must proceed within a context of caution guided by realistic enrollment estimates. Many a "needed" program has failed to get off the ground because students, for some reason, were not attracted to it. Three factors should be given careful consideration:

1. The relative lack of status of occupational programs generally, as compared to academic and liberal arts courses. The public relations and recruitment job is never done.

2. Unrealistic levels of rigor attached to some technical programs by some junior colleges. Students willing to train for the *middle level* occupations are, for the most part, average students. They cannot be expected to succeed in rigorous university-parallel courses in science and mathematics, and English, the social sciences, or the humanities. Courses in these fields are very necessary, but they should be especially planned for technical students.

3. The "open door" college is an excellent instrument for democratization. But it offers no easy road to learning. The doors to specific courses and curriculums are *not open* to all students. A somewhat *directive* system of guidance is necessary to make sure that students enroll in courses and curriculums suited to their abilities, where success can be attained. A permissive "open door" to all courses and curriculums results in mass enrollments in college-parallel courses and in mass failures. Under permissive guidance, enrollment in occupational programs is apt to remain very low.

With the strong "college parallel" tradition at MJC-KC it can be postulated that, for several years at least, the percentage enrollment in academic courses and programs will remain high.[1]

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[1] It is still too early to tell, however, just what effect UMKC and the new Johnson County Kansas Community College, may have on the college transfer enrollment at MJC-KC.

With a strong public information program, and an expanded offering in occupational education, combined with an effective career counseling system, it might be possible by 1975 to attain a 50-50 ratio (occupational to college-parallel) as applied to total full-time-equivalent day enrollment.[1]

For curriculum planning purposes, we will consider projections of demand for both the academic years 1974-75 and 1975-76. The range is between 7500 and 8200 full-time-equivalent day students. Taking a near mid-point, the *1975 potential* for occupational programs could then be approximately 4000 students.[2] If typical conditions prevail, about 2700 of these students will be freshmen and 1300, sophomores. Of the freshmen, under-achievers, or those not fully prepared for collegiate-technical or semi-professional level programs, might range from 10% to 25% of the total. For purposes of this study, we have assumed this will be slightly over 10%, or about 300 students. A remedial or "vestibule" core program will be necessary for this group for at least one semester, and for some, a full year.

Consequently, we might expect about 3700 students (2400 freshmen and 1300 sophomores) distributed among the several occupational curriculums available by 1975. Based on the experience of other junior colleges in metropolitan areas with characteristics similar in many ways to Kansas City, enrollments in the five major occupational education fields might be expected to divide up as given in Table 20. (Allowances for special interests of faculty members, and other local factors could, of course, alter these estimates appreciably.)

TABLE 20
APPROXIMATE DISTRIBUTION OF STUDENT ENROLLMENTS IN OCCUPATIONAL EDUCATION MAJOR FIELDS, 1975
(Total – 2700 Students)

Major Category	*Estimated Distribution*	*Number of Students*
Agriculture (if offered)	2%	75
Business Occupations	25	920
Health Occupations	20	740
Industry/Engr./Science	35	1300
Service Occupations	8	295
Other Occupational	10	370
TOTAL	100%	3700

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[1] Total Full-Time Equivalent Day Enrollment is used, rather than total head count, or total full-time equivalent enrollment, because this is the factor which establishes the boundaries for facilities and curriculum planning.

[2] For curriculum planning purposes here, we have leaned toward the demand estimates for 1975-76. This is one year beyond the target level for facilities planning purposes, because it is assumed that with a more comprehensive institution, a number of students will be pursuing occupational courses off-campus at participating industry or other institutional locations.

The Industry/Engineering/Science group of students can be divided into two sub-groups:

1. Those students capable of collegiate-technical, semi-professional, associate-degree programs – about 50 percent of the group, or about 650 students.

2. Those whose abilities predict success only in highly-skilled or industrial-level programs, perhaps one-year or short-term, leading to a certificate – 50 percent or 650 students.

Similarly, the other groups might have some curriculums at the associate degree, semi-professional level and other courses and sequences at less demanding levels, in order to give students of lower academic abilities a junior college program which would prepare them for available jobs.

It is readily apparent that, by 1975, the numbers of students attending MJC-KC will necessitate a great deal of curriculum expansion in occupational education. However, even with the numbers of students indicated in the above table, extreme proliferation of curriculums and courses is to be avoided. Keeping in mind that each separate curriculum involves anywhere from two to six courses unique to its own occupational field, the necessity for careful planning is apparent. It is recommended that a "cluster" or "occupational family" core curriculum approach be used in the basic planning. Figure 2 (page 53) indicates a possible model, or scheme, for core curriculum planning. It would be advisable to place a good share of the core requirements in the freshman year. This procedure would result in the following advantages:

1. Relatively large freshman classes would help balance necessarily small sophomore classes in some specialties.

2. Core requirements could be offered at *all the campuses,* assuring that all sophomores in any curriculum would then have the same background of freshman preparation. Transfer to any campus in the system for sophomore work would thus be facilitated.

3. Very expensive programs, and/or those with inherently low sophomore enrollments, could have the advanced laboratories and courses located at only one campus in the system.

5. Student Personnel Services

An exceedingly important function of community colleges is that of providing a wide array of extra-classroom services to students. Increasingly, it is recognized that the college experience is more than what a student learns in a given course or curriculum. The average student enters college with many personal, educational, and vocational problems. Often he is uncertain about his future, lacking in accurate information about the world of work, and confused by the tensions in the swiftly changing society in which he finds himself. The young high school graduate particularly is a victim of this situation right at the very time when he is emerging as a young adult, breaking some of his family ties and seeking status with new peers.

Because the community college attracts such a diverse group of students, all of whom are commuters, it has a special problem of assimilating and guiding its student body and of providing each individual with an opportunity to increase his personal competence. Unlike the residential college in which students encounter certain beneficial experiences by living away from home, the community college must plan deliberately to supplement its educational program with a variety of activities which are commonly known as student personnel services.

This phase of the community college program includes a variety of services. Perhaps chief among them – but by no means the *only* important category – is counseling and guidance. Indeed, without an exceedingly strong program of counseling, coupled with high-level programs for testing and for providing up-to-date occupational information, it is doubtful that the goals of a comprehensive community college can be met. A related service is that of placement, both for part-time work while the student is in school and for full-time work when he leaves or completes his program. Since many community college students have serious financial problems, an assistance program which involves student loans, scholarships, and other types of help is a must. A very different type of service is that of facilitating a student activity program. The interests and needs of students have changed materially in the last few years and the question of how best to meet the cultural, political, and social requirements of today's student bodies is very real. Over and beyond the above list of services are many others which fall in the category of student personnel. These include admissions, records, health services, and referral to outside agencies, to name only a few. Finally, the role of the student personnel staff in working with the teaching staff in curriculum planning, understanding students, and especially in the development program for students with educational deficiencies constitutes a thread that makes the program integral to the total institution.

Certain steps should be taken immediately toward upgrading the student personnel services in the Metropolitan Junior College District. The following recommendations pertain especially to the immediate future –even while the new Central Campus is in the planning process – although some of them obviously are applicable to each new campus as it comes into being.

1. A written statement should set forth the philosophical assumptions which provide the rationale for a student personnel program in a community junior college. This statement sould be a result of joint discussions among representatives of the faculty, the students, the administrative staff and the student personnel staff and should define in behavioral terms the goals and objectives of the student personnel program at Metropolitan Junior College.

2. Policies and procedures for the student personnel services area should be developed which will minimize the division of the college program between the

Westport and McGee buildings. The present arrangement is impractical and unnecessarily fragments the services provided to both students and faculty. As long as the division between the two buildings exists, some method should be established for developing cooperative working arrangements in order to provide unified and consistent student personnel services to all students.

3. Job descriptions should be prepared for each position in the student personnel area which clearly delineate its responsibilities and duties as well as clarify its relationship to other student personnel and instructional areas.

4. The functions of the admissions office should be defined as belonging to the student personnel area and the lines of responsibility clarified. The present arrangement in which the director of admissions is functionally responsible to the assistant deans and administratively responsible to the vice-president contributes to an ambiguous situation. The work of the admissions and records office needs to be coordinated more closely with the counseling function in order to improve the quality of service to students. For example, the work of the counselors in the McGee building is adversely affected because of the difficulty in obtaining students' files and records from the Westport building where they are stored.

5. The system of faculty advisement needs to be carefully evaluated. If it is to be continued, an extensive and intensive in-service training program for faculty needs to be developed and implemented.

6. The use of standardized tests needs intensive study. The method of establishing criteria for academic placement needs to be reviewed and safeguards established against arbitrary and inappropriate use of test scores. The responsibility for the development of pertinent test data should rest with the student personnel area with the assistance of the research and instructional staffs where appropriate. Interpretation of test data and the use of it in student decision-making should be directed by professional counselors who are competent to relate test scores to other pertinent data about students.

7. The financial aids program needs to be expanded. It is significant to note that in a student body of more than 5,700 students, only 1 to 5% are receiving financial assistance through scholarships or loan funds.

8. The job placement service should be upgraded. There is no regular part-time or full-time placement service available to students and only minimal efforts are made to provide even sporadic service to students or employers. If the college is to serve the lower socio-economic segments of Kansas City's population, services in this area will need to be developed. There was inadequate opportunity during the visit to obtain sufficient information about the developmental program to make an accurate judgment as to how effectively it is meeting student needs. There is some evidence to suggest that the program would benefit from greater involvement of the counseling staff in the selection of

students and in the planning and implementation of the program. There was general agreement among the staff that more curricular offerings for students with limited academic ability were needed.

9. The counselor-counselee ratio should be reviewed and brought into line with acceptable professional standards. While the use of all faculty members as academic advisers may alleviate the pressure on the counselors' time, it also tends to diminish the opportunities for the counselors to have direct, frequent contact with all students. As a result, counseling services become primarily oriented toward clinical problems involving the "problem student," at the expense of the customary emphasis of junior colleges on providing counseling services to *all* students.

10. There is general need for the development of a broad, comprehensive program of evaluation of the student personnel program. This should be accompanied by intensive and extensive collection of data regarding students, including follow-up studies of graduates as well as of those who leave prior to the completion of any meaningful objective.

11. The student personnel program needs strong, centralized leadership to provide coordinated guidance and direction to the various service areas and to establish a purposeful relationship between the instructional program and the student personnel program. The administrative organization structure needs to provide a position for a chief student personnel administrator who can provide essential leadership to the student personnel staff and to the development of their programs.

12. It is essential that a dean (or comparable title) of student personnel services be appointed for each campus and that he coordinate with the dean of instruction. It is not necessary that one person in the district office be charged with overall coordination responsibilities for student personnel, but there must be district-wide concern about this phase of the program. The District President should take whatever steps he considers necessary to achieve this concern.

13. There should be an appropriate delegation of responsibility under the dean of student personnel for other functions such as the student activity program, coordination of counseling and guidance, admissions and records, etc. Obviously, the rapidity with which a complete organization is effected depends upon the size and growth of each campus.

6. Summary

We recommend that the Metropolitan Junior College of Kansas City move as rapidly as possible toward the goal of comprehensiveness. The retention of its reputation for high quality college-parallel and academic programs is assumed and encouraged. But, since this phase of the total program is already of high quality, a major emphasis or thrust over the next decade should be in the development of equally high quality occupational education programs, and "vestibule" or "second chance" programs for academically disadvantaged students. In order for this entire effort to operate in a reasonably efficient manner to the benefit of all concerned, there must be developed a program of guidance, counseling, and placement on a level not thus far attained by MJC-KC.

We recommend that MJC-KC concentrate occupational education efforts for the immediate future on programs whose content and rigor are aimed at the semi-professional and technical occupations (as defined in a previous section). Such a policy will avoid unnecessary duplication of effort between MJC-KC and the Kansas City Public Schools' area vocational-technical school, which is now in the planning stage. The courses and programs offered at this facility should be, for the most part, at secondary levels, emphasizing training for occupations at skilled, semi-skilled, and service levels. Close articulation between the vocational school and the junior college should be maintained. In the event that the proposed Kansas City vocational-technical school does not become operational MJC-KC should re-evaluate its own responsibilities for vocational and trade level education during the 1970-71 college year.

We recommend that programs as delineated on previous pages be developed according to the time schedule suggested. Some differentiation of function among campuses is strongly recommended to avoid duplication of extremely expensive laboratories and shops, and to assure reasonably efficient class sizes in advanced sophomore courses.

We recommend that a great deal of planning effort go into the development of cooperative work-experience programs with industry, business, and with institutional and government agency employers.

We recommend that the philosophy of a freshman core curriculum be implemented for most of the associate degree programs, and that the core courses for nearly all curriculums be offered at all three campus locations.

We recommend that MJC-KC align itself with other Missouri junior colleges and with the necessary foci of political power, to insure that a proper share of federal vocational education funds are allocated to junior colleges by the state director of vocational education. These steps will be especially necessary if a number of new "area vocational schools" are established in Missouri in the next few years.

All three campus locations should have all the facilities characteristic of a comprehensive community college, and all campuses should offer general education, a full schedule of college-parallel programs, and a rich offering of extended day programs for continuing education purposes. Extensive use of advisory committees is recommended as courses and programs are planned for the "regular day" and evening college schedules.

IV. PROGRAM PLANNING AND CAMPUS DEVELOPMENT

1. The Detailed Curriculum Planning Process

The basic guidelines pertaining to the development of education programs in community colleges were set forth in Chapter III. It remains to relate these requirements to problems of detailed curriculum planning for campus development. For established educational institutions, curriculum planning is a time-consuming and difficult task. It is perhaps one of the most critical processes of the educational system, for it establishes the college's posture, and in effect, represents to the community at large a total statement about the nature of the institution. The curriculum is a manifestation of policies of the Board, the procedures, style and policies of the administration, and the collective educational objectives of the faculty.

For developing institutions of higher education, the curriculum planning process is perhaps even more difficult. Once new program needs are defined, the relevant courses must be planned and matched against competing demands on the institution's resources with a proper sequence for implementation that permits new or expanded programs to be launched with maximum effectiveness. The curriculum planning process is a continuous one requiring the careful coordination of faculty planning committees and the administration. For a comprehensive community college, this process must also involve the community at large, significant employer groups, and institutions to which students most frequently transfer.

In the previous chapter we have presented a series of guidelines which incorporate the deliberations of representatives of each of these participant groups. The importance of our recommendations as *guidelines* and not as immutable strictures cannot be overstressed. It must be recognized that refinements and alterations will occur as successive stages of the planning process are approached and the level of detail increases. In addition, the next stage of development will require the participation in the curriculum planning process of the college's facility planners and architects as they begin to translate program requirements into appropriate space demands. As the process unfolds, periodic evaluations of progress should be made by persons on the college staff who are expert in institutional research. With a system analysis approach to this effort, in which each part of the college program is viewed in its relation to the total institution, the on-going research and evaluation process will have important feedback results that can help refine the curriculum planning process to maximize the benefits of each program.

2. Campus Specialization and Differentiation of Function

As a guide to the curriculum planning team, we have developed several recommendations pertaining to the specialization and differentiation of function among campuses. Based on our research and analysis of the metropolitan Kansas City economy and probable enrollment distribution, a number of suggestions can be made about the allocation of specific courses among the three campuses. However, as we noted in Chapter III, all campus locations should have all of the facilities characteristic of a comprehensive community college. Specifically, we strongly recommend that on all campuses there be:

1. Equally capable and distinguished faculty.
2. Excellent libraries and instructional resources and learning laboratories for student use of "new media" equipment.
3. Comfortable and attractive student centers with good food services.
4. Strong and effective programs of guidance and counseling, with emphasis on career guidance and placement.
5. Equally attractive and functional buildings, although their architecture may differ markedly.
6. A full and comprehensive program of general studies and the liberal arts; and most of the pre-professional courses for transfer to four-year colleges.
7. A developmental or "vestibule" program for under-achievers and slow learners.
8. Programs of continuing education and training for adults, and a well-structured program of community services.
9. Facilities for and programs in the fine arts and the performing arts.
10. The core programs (mainly freshmen level) for all the occupational education curriculums.

In addition, each campus should have all the facilities, staff, and courses *for some of the occupational education programs.* However, with geographic location, profitable student enrollment, and inordinately high costs of some programs in mind, suggestions for some differentiation of function are shown in Table 21.

TABLE 21
CURRICULUMS AND COURSES FOR SUGGESTED CONCENTRATION AT DIFFERENT CAMPUSES OF THE MJC-KC DISTRICT

Campus Location

Central Campus

A. Very strong in all business education fields. Perhaps the only campus offering specialized work in:

1. Merchandising
2. Banking and finance
3. Computer programming
4. Commercial art
5. Fashion design
6. Advertising

B. Very strong in most of the health occupations. Perhaps the only campus offering specialized work in:

1. Inhalation therapy
2. Medical electronics technology
3. Medical lab technology
4. Operating room technology
5. Unit management
6. X-Ray technology
7. Dental office assisting
8. Nursing

C. Quite strong in the Industry/Engineering/Science occupations fields, except those indicated as areas of concentration at other campuses. Perhaps the only campus to offer specialized work in:

1. Air conditioning/refrig. technology
2. Industrial supervision
3. Operating engineering technology
4. Graphic arts

D. Very strong in the service occupations fields. Perhaps the only campus offering specialized work in:

1. Hotel and restaurant management
2. Fire service training
3. Law enforcement

4. Social worker aide training
5. Communicative arts, journalism, radio, television

E. Offers the core freshman program for nearly all fields.

South Campus

A. Strong in all business fields except those where concentration at the City Center Campus was indicated.

B. Strong in most health occupations, however some of the highly specialized programs may be at Central Campus only.

C. Very strong in Industry/Engineering/Science occupations. Perhaps the only campus to offer advanced specialized work in:

   1. Chemical technology
   2. Civil technology
   3. Sanitation technology
   4. Very advanced work in industrial electronics and communications electronics.
   5. Mechanical technology
   6. Advanced automotive mechanics

D. Offers the core freshman programs for nearly all fields.

North Campus

A. Concentration on the aviation industry occupations. Perhaps the only campus to offer specialized work for:

   1. A. & P. mechanics
   2. Air traffic control
   3. Counter and ramp occupations
   4. Pilot training

B. Agriculture programs might be concentrated here, at least all the sophomore specialty courses.

C. Offers the core freshman program for nearly all fields.

3. Sequence and Timing

The procedure suggested here should be viewed as a general guide for the implementation of programs on the three campuses. The sequence is based in part on our expectations of enrollment demand for different program categories and on the assumption that the central campus will be ready for initial occupancy by the fall of 1971, and that interim facilities will be available at the south and north campuses for program operations by the fall term of 1969. We fully expect that the actual sequence of development will be modified to incorporate the results of more detailed curriculum and facilities planning as the development process proceeds.

1968-69– Continue all present programs. Carry out intensive recruitment for those programs with low enrollments. Put the developmental (vestibule) program into operation. Expand the health and medical programs, the electronics program, and initiate chemical technology. Initiate the core curriculum concept. Expand the system of advisory committees. Revise the administrative structure as needed.

1969-70– Develop facilities for a north and south campus and initiate first phases of aviation occupations program. Pending completion of the central campus, further expand health occupations and specialized business occupations. Employ coordinators and staff to get these programs off to a good start.

Initiate such service occupations programs as teacher aid training, social worker aide, and community recreation specialist.

1970-71– First phase of south and north campuses should be complete. Stress the development of the engineering technologies, especially the more sophisticated electronics programs, and civil, mechanical, instrumentation, and chemical technologies.

Continue the development of strong business, health, and service occupations programs, at the central campus, if need be leasing additional space. Proceed with an all-out curriculum development at the central location in accord with recommendations in a previous section.

1971-72– First phase buildings, facilities, and equipment at the central campus should be nearly complete and functioning well by this time. It might have a regular day enrollment of nearly 6000 students. Put a great deal of planning effort this year into the community service and continuing education programs. By this time late afternoon and evening enrollment (head count) should exceed regular day enrollment. Initiate new programs as expeditiously as possible until all or most of the curriculums listed under *Needed Education Programs: Projections to 1975* are in operation. Make use of many *ad hoc* advisory committees. Locate core freshman programs on all campuses, and give careful consideration to differentiation of function for advanced courses requiring highly specialized and expensive laboratories. Emphasis on evening and late afternoon courses for employed adults should be apparent.

By this time, it will be clear whether or not the Kansas City School District will actually be operating its proposed vocational-technical school. If it is in operation, close articulation should be established so that the programs will complement one another rather than compete and duplicate. If plans for this school do not materialize, MJC-KC should initiate a thorough study of its possible responsibilities for vocational education at the skilled trade and semi-skilled operator levels.

1972-73– The south and north campuses should be in full operation. Expand the aviation occupations programs and initiate (after advisory committees study) some agri-business and agricultural technology programs. Provide the freshmen core courses for nearly all of the occupational curriculums on the north campus this year.

System-wide, this should be a year of evaluation. Much institutional research should be accomplished. Total FTE day enrollment should now be over 6000 students. Expansion of facilities and staff for some programs will undoubtedly be necessary, but cut-backs or even dropping of certain others might be indicated, depending on manpower needs and student interest.

1973-75– Completion of all three campuses. FTE day enrollment may now be in excess of 9000 students. Each campus should become a complete, comprehensive community college. Only for a few very highly specialized kinds of education and training would it be necessary for a student to attend a campus which is not the most convenient one to his home or place of work.

By this time, one-half of the regular day student body ought to be in occupational education curriculums. The college transfer program should be better than ever, since excellent counseling will assure that students are properly prepared for entering university-parallel courses.

The extended day and evening programs could by this time be enrolling in excess of 10,000 part-time students, some taking courses for eventual "transfer" to a four-year college; some working toward an associate degree in a technical or semi-professional program; some taking courses for general education and cultural development; and many others enrolled for purposes of job-upgrading or job mobility.

The three campuses should by this time be centers of cultural and recreational activity for their respective communities. Active programs in the fine arts, music, the performing arts; and symposia and seminars for economic and cultural development should be almost as much a part of the college programs as are the "regular day" courses of study.

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MAR 12 1982